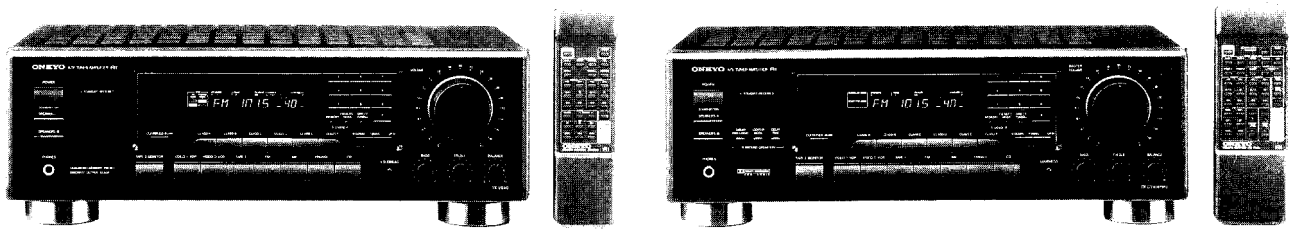
Ref. No. 3469

ONKYO SERVICE MANUAL

QUARTZ SYNTHESIZED TUNER AMPLIFIER

MODEL TX-V940
MODEL TX-V940RDS
MODEL TX-SV414PRO



Black model

BMD, BMDN	120V AC, 60Hz
BMP	230V AC, 50Hz
BMW	120V or 220V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

TABLE OF CONTENTS

Specifications....2
Service procedures....3
Exploded view TX-SV414PRO....4
Parts list TX-SV414PRO....5
Exploded view TX-V940/TX-V940RDS....6
Parts list TX-V940/TX-V940RDS....7
Block diagram Tuner section....8
Block diagram TX-SV414PRO....10
Block diagram TX-V940/TX-V940RDS....11
Microprocessor connection diagram....12
Microprocessor terminal description....13
IC block diagrams and descriptions....14
Adjustment procedures....20
Printed circuit board views from bottom side....23
Schematic diagram TX-V940....25
Schematic diagram TX-V940RDS....29
Schematic diagram TX-SV414PRO....33
Printed circuit board views from bottom side....37
Schematic diagram TX-SV414PRO....41
Printed circuit board-parts list TX-V940/TX-V940RDS....43
Printed circuit board-parts list TX-SV414PRO....47
Packing view....52

ONKYO AUDIO COMPONENTS

SPECIFICATIONS

AMPLIFIER SECTION

	TX-V940/TX-V940RDS	TX-SV414PRO
Power Output:	USA & Canadian models: 100 watts per channel, min. RMS, at 8 ohms, both channels driven, from 40 Hz to 20 kHz with no more than 0.2% THD. Other than USA & Canadian models: Continuous output 2 × 100 watts at 4 ohms 1 kHz (DIN) 2 × 75 watts at 8 ohms 1 kHz (DIN)	Stereo mode Front L/R channels 60 watts per channel min. RMS. at 8 ohms, both channels driven, from 20 Hz to 20,000 Hz, with no more than 0.08% total harmonic distortion. Continuous Power output: 2 × 90 watts 4 ohms 1 kHz (DIN) 2 × 70 watts 8 ohms 1 kHz (DIN) Surround mode Front L/R and center channels 50 watts per channel min. RMS at 8 ohms, with no more than 0.08% total harmonic distortion at 1,000 Hz Rear channels 15 watts per channel min. RMS at 8 ohms with no more than 0.3% total harmonic distortion at 1,000 Hz
Total Harmonic Distortion:	0.08% at power 30 watts	0.08% at rated power (FRONT)
IM Distortion:	0.08% at power 30 watts	0.08% at rated power (FRONT)
Damping Factor:	50 at 8 ohms	50 at 8 ohms (FRONT)
Sensitivity and Impedance:	Phono: 2.5 mV/50 kohms CD/Tape Play: 150 mV/50 kohms Tape Rec: 150 mV/2.2 kohms	Phono: 2.5 mV/50 kohms CD/Tape Play: 150 mV/50 kohms Tape Rec: 150 mV/2.2 kohms Mono out (SUBWOOFER): 1V 2.2 kohms
Phono Overload:	120 mV RMS. at 1,000 Hz, 0.5% THD.	120 mV RMS. at 1,000 Hz, 0.5% THD.
Frequency Response:	20 to 30,000 Hz, +/–1 dB	20 to 30,000 Hz, +/–1 dB
RIAA Deviation:	20 to 20,000 Hz, +/–0.8 dB	20 to 20,000 Hz, +/–0.8 dB
Tone Control:	BASS: +/–10 dB at 100 Hz TREBLE: +/–10 dB at 10,000 Hz	BASS: +/–10 dB at 100 Hz TREBLE: +/–10 dB at 10,000 Hz
Signal to Noise Ratio:	PHONO: 80 dB (IHF A, 5 mV input) CD/TAPE: 100 dB (IHF A)	PHONO: 80 dB (IHF A, 5 mV input) CD/TAPE: 100 dB (IHF A)

VIDEO SECTION

Signal sensitivity and impedance:	VDP/VCR input, output: 1 Vp-p, 75 ohms	VDP/VCR input, output: 1 Vp-p, 75 ohms

TUNER SECTION

FM:

Tuning Range:	87.5 — 108.0 MHz	87.5 — 108.0 MHz
Usable Sensitivity:	Mono: 11.2 dBf, 1.0 µV (75 ohms) Stereo: 17.2 dBf, 2.0 µV (75 ohms)	Mono: 11.2 dBf, 1.0 µV (75 ohms) Stereo: 17.2 dBf, 2.0 µV (75 ohms)
50dB Quieting Sensitivity:	Mono: 18.2 dBf, 2.2 µV (75 ohms) Stereo: 38.2 dBf, 22 µV (75 ohms)	Mono: 18.2 dBf, 2.2 µV (75 ohms) Stereo: 38.2 dBf, 22 µV (75 ohms)
Capture Ratio:	1.5 dB	1.5 dB
Image Rejection Ratio:	USA & Canadian models: 40 dB Other area models: 85 dB	USA & Canadian models: 40dB Other area models: 85 dB
IF Rejection Ratio:	90 dB	90 dB
Signal-to-Noise Ratio:	Mono: 73 dB Stereo: 67 dB	Mono: 73 dB Stereo: 67 dB
Alternate Channel Attenuation:	55 dB	55 dB
Selectivity:	50 dB (DIN)	50 dB (DIN)
AM Suppression Ratio:	50 dB	50 dB
Total Harmonic Distortion:	Mono: 0.15% Stereo: 0.25%	Mono: 0.15% Stereo: 0.25%
Frequency Response:	30 — 15,000 Hz +/-1.5 dB	30 — 15,000 Hz +/-1.5 dB
Stereo Separation:	45 dB at 1 kHz/30 dB at 100 — 10,000 Hz	45 dB at 1 kHz/30 dB at 100 — 10,000 Hz

AM:

Tuning Range:	USA & Canadian models: 530 — 1710 kHz (10 kHz steps) European models: 522 — 1611 kHz (9kHz steps) Worldwide models 531 — 1602 kHz (9 kHz steps), 530 — 1710 kHz (10 kHz steps)	USA & Canadian models: 530 — 1710 kHz (10 kHz steps) European models: 522 — 1611 kHz (9kHz steps) Worldwide models 531 — 1602 kHz (9 kHz steps), 530 — 1710 kHz (10 kHz steps)
Usable Sensitivity:	30 µV	30 µV
Image Rejection Ratio:	40 dB	40 dB
IF Rejection Ratio:	40 dB	40 dB
Signal-to-Noise Ratio:	40 dB	40 dB
Total Harmonic Distortion:	0.7%	0.7%

GENERAL

Power Supply:	USA & Canadian models: AC120 V, 60 Hz European models: AC 230V, 50 Hz UK & Australian models: AC 240 V, 50 Hz Woldwide models: 220 V and 120 V switchable 50/60 Hz	USA & Canadian models: AC120 V, 60 Hz European models: AC 230V, 50 Hz UK & Australian models: AC 240 V, 50 Hz Woldwide models: 220 V and 120 V switchable 50/60 Hz
Dimensions (W × H × D):	455 × 150 × 331 mm 17-15/16" × 5-7/8" × 13-1/16"	455 × 150 × 331 mm 17-15/16" × 5-7/8" × 13-1/16"
Weight:	9.5 kg (20.9 lbs)	10.2 kg (22.5 lbs)

Remote control transmitter RC-223S

Transmitter:	Infrared
Signal range:	Approx. 5 meters (16ft. × 4˝)
Power supply:	Two "AA" batteries(1.5V × 2)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1.Replacing the fuses

This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce darnier est indique la qu le present symbol est appose.

Circuit No.	Part No.	Descriptions	Models	Remarks
F901	252166Y	6.3A-UL/T-237,Primary	MD/MW	
F902	252076	3.15A-SE-EAK,Primary	MP/MW	
F903	252075	2.5A-SE-EAK,AC outlet	MP	
F921,F922	252166Y	6.3A-UL/T-237,Secondary	MD	TX-SV414PRO only
F921,F922	252079	6.3A-SE-EAK,SEcondary	MP/MW	TX-SV414PRO only

2.Safety-check out

(Only U.S.A. model)
After correcting the original service problem,perform the following safety check before releasing the set to the customer.
Connect the insulating-resistance tester between the plug of power suuply cord and nickel screw on the back panel.
Specifications: 3.3Mohm ±10% at 500V.

3.Change of voltage

Worldwide models are equipped with a voltage selector to conform with local power supplies. This switch is located on the back panel. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.
This swith is set to 220V at the factory. Voltage is changed by sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.

4.Step band selector switch

Worldwide models are equipped with a step band selector switch. This switch is located on the back panel. This switch is set to 9kHz (AM) at the factory, but may have to be reset to 10kHz depending on the area where the unit is used.

	AM step
Europe: 50μsec	9kHz
U.S.A.: 75μsec	10kHz

5.Changing the band step

With the exception of the models below, a BAND STEP selector switch is not provided.

<AM>

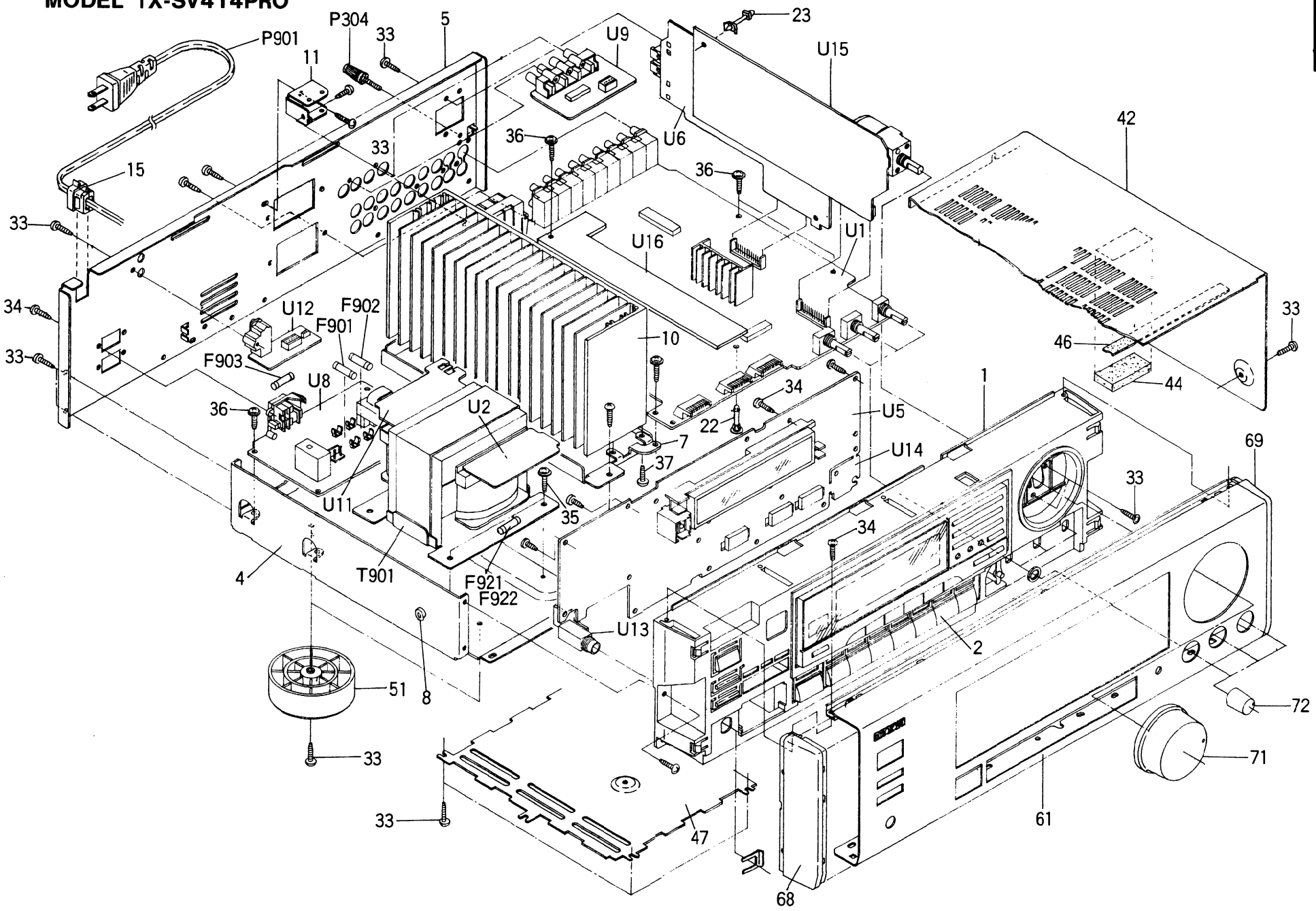
MODEL	BAND STEP	R727
MD	10kHz to 9kHz	47 kΩ
MP	9kHz to 10kHz	22 kΩ

6.Memroy preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory,the power switch must be turned on and off a few times each month to keep the back-up system operative. The period of time during which memory contents are preserved after power has last been turned off varies depending on climate and placement of the unit.
On the average, memory contents are protected over a period of 3 to 4 weeks (a minimum of 2 weeks) after the last time power has been turned off. This period is shorter when the unit is exposed to very high humidity or used in an area with an extremely humid climate.

EXPLODED VIEW

MODEL TX-SV414PRO



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	27110794Y	Front bracket
2	28324929AY	Knob CLA
3	28175209Y	Isolating plate
4	27100278AY	Chassis
5	27121825AY	Rear panel <D>
	27121826AY	Rear panel <P>
	27121828AY	Rear panel <W>
	27121829AY	Rear panel <PX>
	27121842AY	Rear panel <C>
7	27130727Y	Bracket H
8	27270212Y	Spacer <P/W>
10	27160330AY	Radiator
11	27141623Y	Retainer H
13	27141530AY	Retainer HS-2
15	27300750	⚠ Bushing cord
22	27190524	KGLS-14RF,Holder
23	27190062	KGLS-12S,Holder
32	801433	3SMS8W.SW+14B(BC),Special screw
33	834430088	3TTS+8B(BC),Self-tapping screw
34	833430080	3TTP+8P(BC),Self-tapping screw
35	830440089	4TTC+8B(BC),Self-tapping screw
36	831130088	3TTW+8B,Self-tapping screw
37	834430108	3TTS+10B(BC),Self-tapping screw
39	82143006	3P+6FN(BC),Pan head screw
42	28184476BY	Top cover
44	28140265	Cushion
46	28140546	Cushion
47	27170302Y	Bottom panel
51	27175251AY	Leg
61	1A472121Y	Front panel ass'y
62	8910301	CS-3,Ring CS
63	28191673Y	Clear plate
64	28198782Y	Facet
67	28135199	Badge
68	28125255A	End cap L
69	28125256A	End cap R
71	28324933A	Knob VOLUME
72	28324845B	Knob LEVEL
F901	252166Y	⚠ 6.3A-UL/T237,Fuse <D/W>
F902	252076	⚠ 3.15A-SE-EAK,Fuse <P/W>
F903	252075	⚠ 2.5A-SE-EAK,Fuse <P>
F921,F922	252166Y	⚠ 6.3A-UL/T237,Fuse <D>
	252079	⚠ 6.3A-SE-EAK,Fuse <P/W>

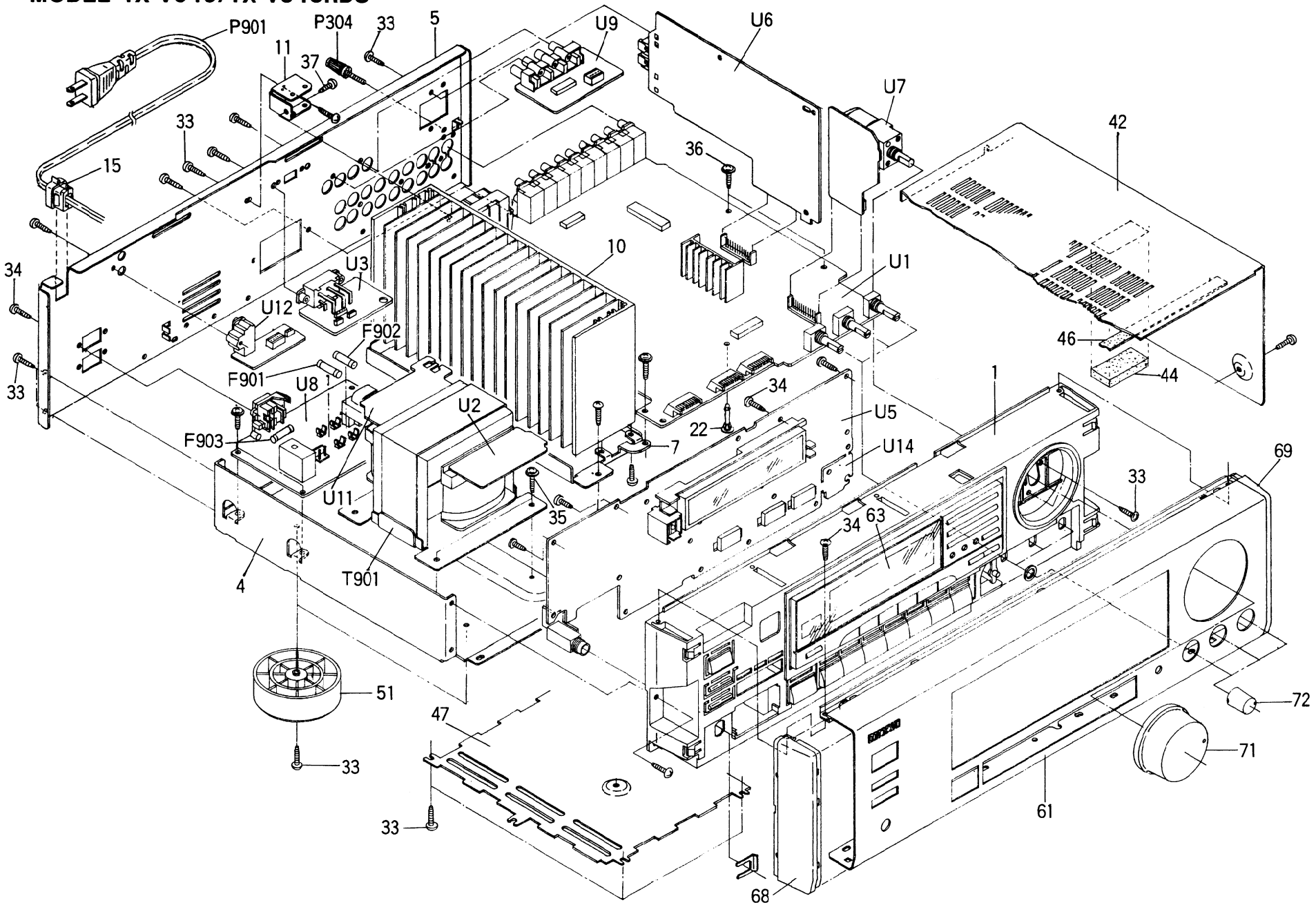
REF.NO.	PART NO.	DESCRIPTION
P304	25060044	Terminal
P901	253192HIT	⚠ AS-UC-6#18,Power supply cord <D/PX>
	253193HIT	⚠ AS-CEE,Power supply cord <P/W>
Q521,Q522	2202523,	2SC4468-O,
	2202524,	2SC4468-Y,
	2202526,	2SC4468-P,
	2202292 or	2SC3182N-R or
	2202293	2SC3182N-O,Transistors
Q523,Q524	2202513,	2SA1695-O,
	2202514,	2SA1695-Y,
	2202516,	2SA1695-P,
	2202282 or	2SA1265N-R or
	2202283	2SA1265N-O,Transistors
Q821	2202253,	2SC4467-O,
	2202254,	2SC4467-Y,
	2202256,	2SC4467-P,
	2202502 or	2SC3181N-R or
	2202503	2SC3181N-O,Transistors
Q822	2202373,	2SC4466-O,
	2202374,	2SC4466-Y,
	2202375,	2SC4466-P,
	2202352 or	2SC3180N-R or
	2202353	2SC3180N-O,Transistors
Q823	2202243,	2SA1694-O,
	2202244,	2SA1694-Y,
	2202246,	2SA1694-P,
	2202492 or	2SA1264N-R or
	2202493	2SA1264N-O,Transistors
Q824	2202363,	2SA1693-O,
	2202364,	2SA1693-Y,
	2202365,	2SA1693-P,
	2202342 or	2SA1263N-R or
	2202343	2SA1263N-O,Transistors
T901	2300983AY	⚠ NPT-1196D,Power transformer <D>
	2300984Y	⚠ NPT-1196P,Power transformer <P>
	2300985Y	⚠ NPT-1196DG,Power transformer <W>
U1	1A472592-1Y	NAAR-4892-1,Main circuit pc board ass'y <D>
	1A472592-1AY	NAAR-4892-1A,Main circuit pc board ass'y <P/W>
U2	1A472593-1Y	NAETC-4893-1,Power supply circuit pc board ass'y <D>
	1A472593-1AY	NAETC-4893-1A,Power supply circuit pc board ass'y <P/W>
U5	1A472597-1Y	NADIS-4897-1,Display circuit pc board ass'y <D>
	1A472597-1AY	NADIS-4897-1A,Display circuit pc board ass'y <P>
	1A472597-1BY	NADIS-4897-1B,Display circuit pc board ass'y <W>
	1A472597-1CY	NADIS-4897-1C,Display circuit pc board ass'y <C>

REF.NO.	PART NO.	DESCRIPTION
U6	1A472598-1Y	NARF-4898-1,Tuner circuit pc board ass'y <D>
	1A472598-1AY	NARF-4898-1A,Tuner circuit pc board ass'y <P>
	1A472598-1BY	NARF-4898-1B,Tuner circuit pc board ass'y <W>
U8	1A472500-1Y	NAPS-4900-1,Power supply circuit pc board ass'y <D>
	1A472500-1AY	NAPS-4900-1A,Power supply circuit pc board ass'y <P>
	1A472500-1BY	NAPS-4900-1B,Power supply circuit pc board ass'y <W>
	1A472500-1DY	NAPS-4900-1D,Power supply circuit pc board ass'y <PX>
U9	1A472501-1Y	NAETC-4901-1,Video circuit pc board ass'y
U11	1A472503-1Y	NAETC-4903-1,Primary circuit pc board ass'y
U12	1A472504-1Y	NAETC-4904-1,RI terminal pc board ass'y <D/P>
	1A472504-1BY	NAETC-4904-1B,RI terminal pc board ass'y <W>
U13	1A472505-1Y	NAETC-4905-1,Headphone terminal pc board ass'y
U14	1A472506-1Y	NASW-4906-1,Loudness switch pc board ass'y
U15	1A472508-1Y	NAAF-4908-1,Surround ciruict pc board ass'y
U16	1A472509-1Y	NAAF-4909-1,Center and rear amplifier pc board ass'y <D>
	1A472509-1AY	NAAF-4909-1A,Center and rear amplifier pc board ass'y <P/W>

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW

MODEL TX-V940/TX-V940RDS



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	27110792Y	Front bracket <D/W>
	27110795Y	Front bracket <P>
2	28324929Y	Knob CLA
3	28175209Y	Isolating plate
4	27100278AY	Chassis
5	27121817Y	Rear panel <D>
	27121838AY	Rear panel <P>
	27121820AY	Rear panel <W>
7	27130727Y	Bracket H
8	27270212Y	Spacer <P/W>
10	27160330AY	Radiator
11	27141623Y	Retainer H
15	27300750	⚠ Bushing cord
22	27190524	KGLS-14RF,Holder
32	801433	3SMS8W.SW+14B(BC),Special screw
33	834430088	3TTS+8B(BC),Self-tapping screw
34	833430080	3TTP+8P(BC),Self-tapping screw
35	830440089	4TTC+8B(BC),Self-tapping screw
36	831130088	3TTW+8B,Self-tapping screw
37	834430108	3TTS+10B(BC),Self-tapping screw
42	28184476BY	Top cover
44	28140265	Cushion
46	28140546	Cushion
47	27170302Y	Bottom panel
51	27175251AY	Leg
61	1A468121Y	Front panel ass'y <D/W>
	1A476121Y	Front panel ass'y <P>
62	8910301	CS-3,Ring CS
63	28191673Y	Clear plate
64	28198782Y	Facet
67	28135199	Badge
68	28125255A	End cap L
69	28125256A	End cap R
71	28324932B	Knob VOLUME
72	28324845B	Knob LEVEL
F901	252166Y	⚠ 6.3A-UL/T237,Fuse <D/W>
F902	252076	⚠ 3.15A-SE-EAK,Fuse <P/W>
F903	252075	⚠ 2.5A-SE-EAK,Fuse <P>

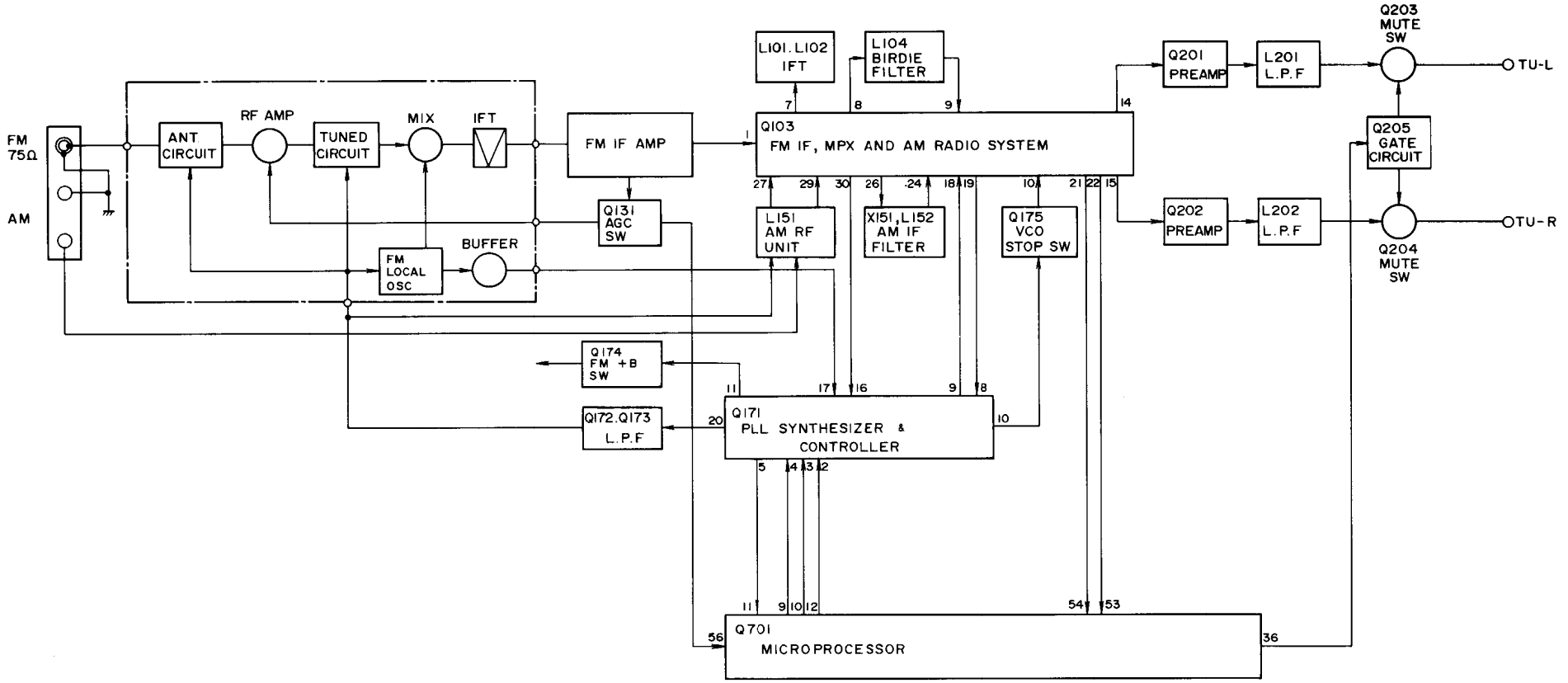
REF.NO.	PART NO.	DESCRIPTION
P304	25060044	Terminal
P901	253192HIT	⚠ AS-UC-6#18,Power supply cord <D>
	253172 or	⚠ AS-CEE-2,
	253092-1A	Power supply cord <P/W>
Q521,Q522	2201653,	2SC3856-O,
	2201654 or	2SC3856-Y or
	2201655	2SC3856-P,Transistors
Q523,Q524	2201663,	2SA1492-O,
	2201664 or	2SA1492-Y or
	2201665	2SA1492-P,Transistors
T901	2300975AY	⚠ NPT-1197D,Power transformer <D>
	2300976Y	⚠ NPT-1194P,Power transformer <P>
	2300977Y	⚠ NPT-1194DG,Power transformer <W>
U1	1A468592-3Y	NAAR-4892-3,Main circuit pc board ass'y <D>
	1A468592-3AY	NAAR-4892-3A,Main circuit pc board ass'y <P/W>
U2	1A468593-3Y	NAETC-4893-3,Power supply circuit pc board ass'y <D>
	1A468593-3AY	NAETC-4893-3A,Power supply circuit pc board ass'y <P/W>
U3	1A468594-3Y	NASW-4894-3,Switch pc board ass'y <D>
U5	1A468597-3Y	NADIS-4897-3,Display circuit pc board ass'y <D>
	1A476597-3CY	NADIS-4897-3C,Display circuit pc board ass'y <P>
	1A468597-3BY	NADIS-4897-3B,Display circuit pc board ass'y <W>
U6	1A468598-3Y	NARF-4898-3,Tuner circuit pc board ass'y <D>
	1A476598-3CY	NARF-4898-3C,Tuner circuit pc board ass'y <P>
	1A468598-3BY	NARF-4898-3B,Tuner circuit pc board ass'y <W>
U7	1A468599-3Y	NAAF-4899-3,Volume circuit pc board ass'y
U8	1A468500-3Y	NAPS-4900-3,Power supply circuit pc board ass'y <D>
	1A468500-3AY	NAPS-4900-3A,Power supply circuit pc board ass'y <P>
	1A468500-3BY	NAPS-4900-3B,Power supply circuit pc board ass'y <W>
U9	1A468501-3Y	NAETC-4901-3,Video circuit pc board ass'y
U11	1A468503-3Y	NAETC-4903-3,Primary circuit pc board ass'y
U12	1A468504-3Y	NAETC-4904-3,RI terminal pc board ass'y <D>
	1A468504-3BY	NAETC-4904-3B,RI terminal pc board ass'y <P/W>
U13	1A468505-3Y	NAETC-4905-3,Headphone terminal pc board ass'y
U14	1A468506-3Y	NASW-4906-3,Loudness switch pc board ass'y

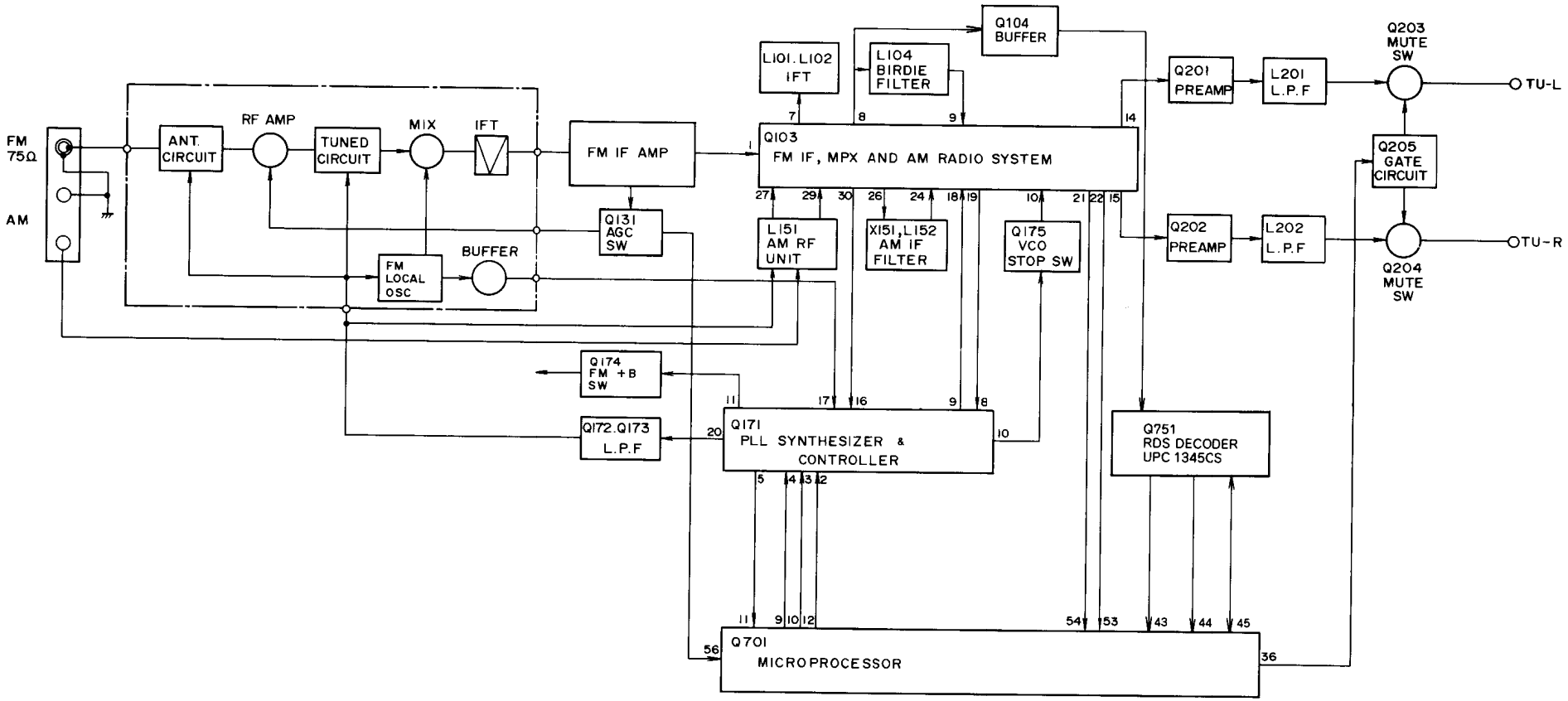
NOTE: <D>:120V model only
<P>:230V model only (TX-V940RDS only)
<W>:Worldwide model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

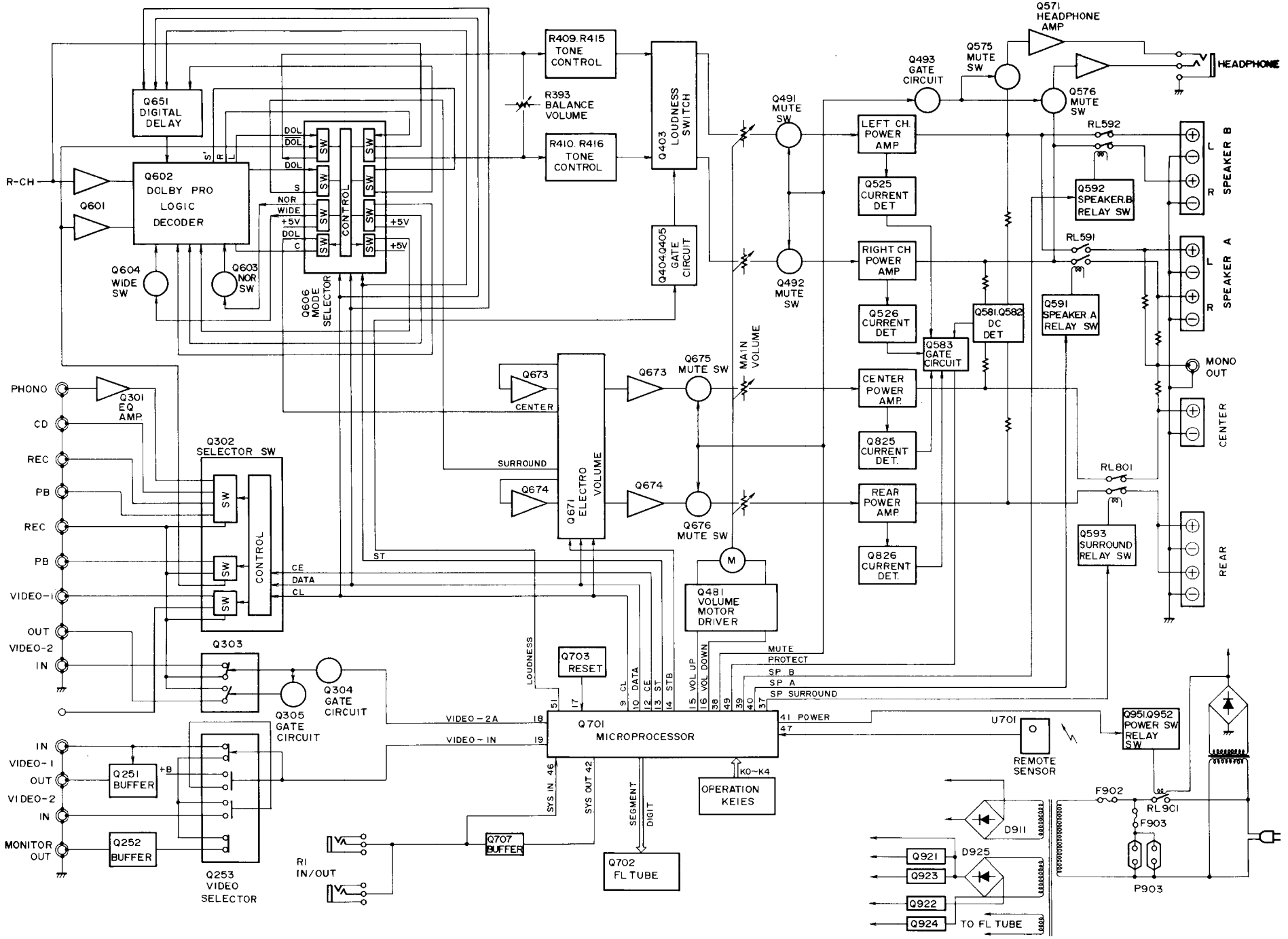
BLOCK DIAGRAM

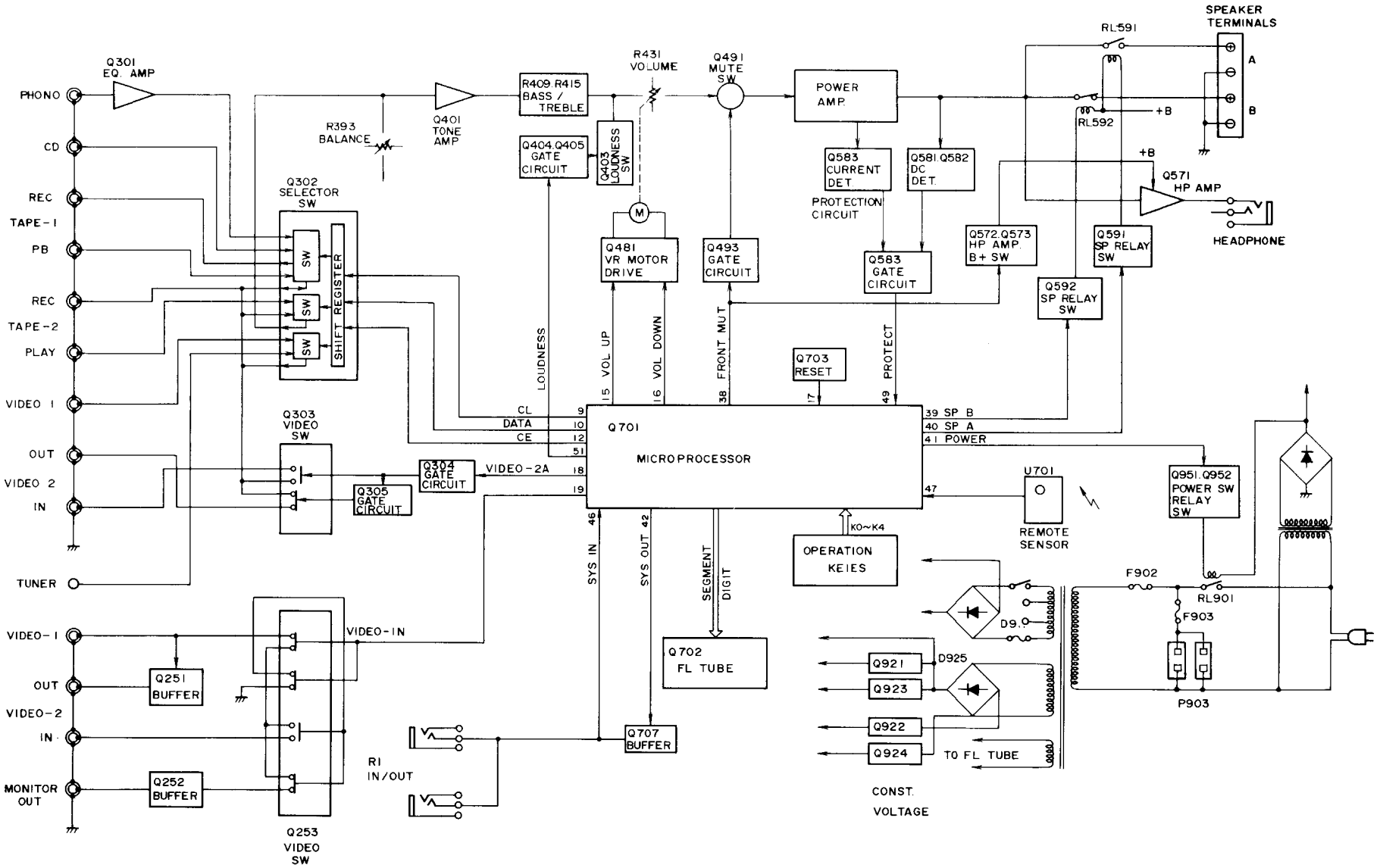
TUNER SECTION



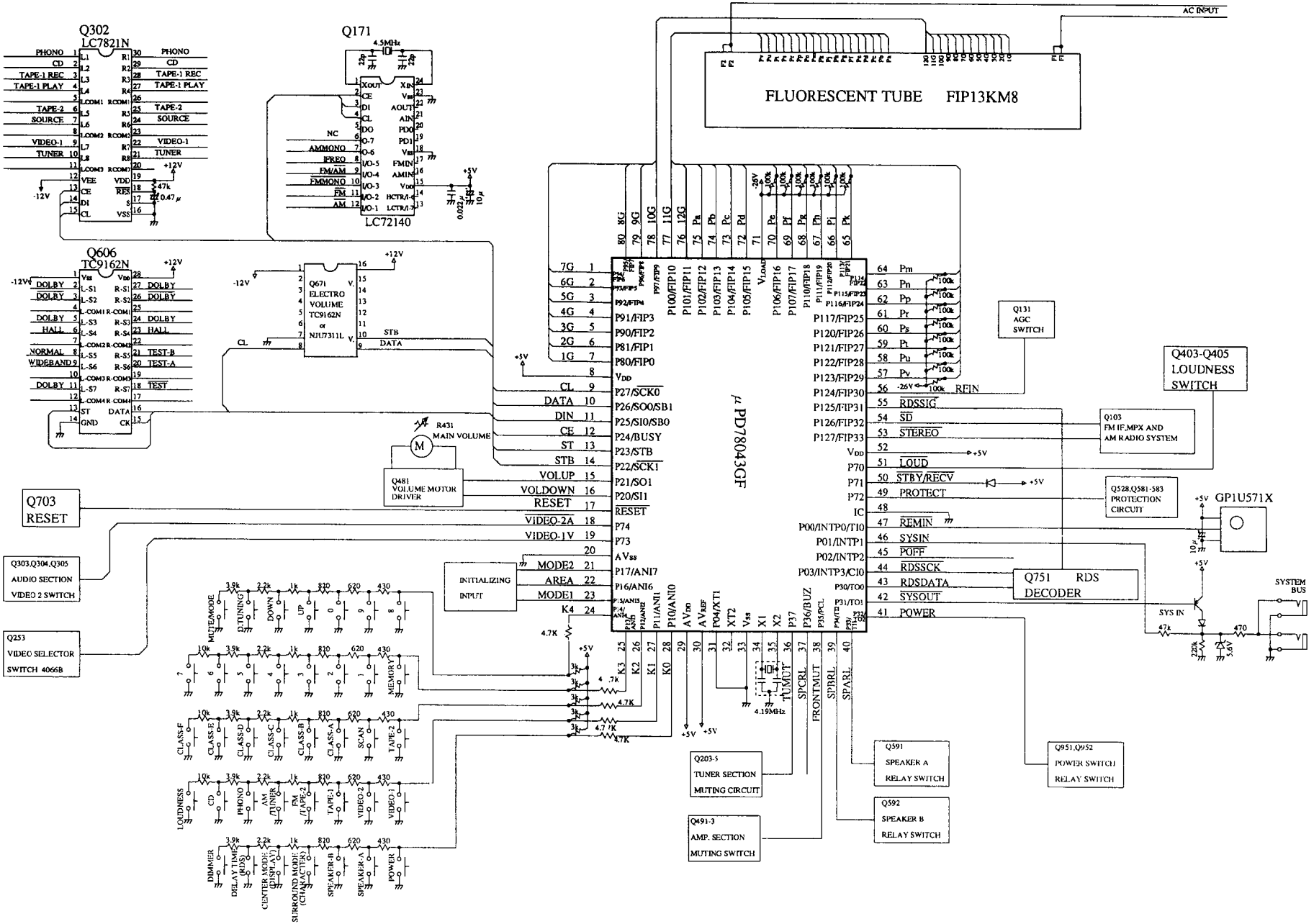

FM 75Ω
AM
ANT. CIRCUIT
RF AMP
TUNED CIRCUIT
MIX
IFT
FM IF AMP
FM LOCAL OSC
BUFFER
Q131 AGC SW
L101. L102 IFT
L104 BIRDIE FILTER
Q104 BUFFER
Q103 FM IF, MPX AND AM RADIO SYSTEM
L151 AM RF UNIT
X151, L152 AM IF FILTER
Q175 VCO STOP SW
Q201 PREAMP
L201 L.P.F
Q202 PREAMP
L202 L.P.F
Q203 MUTE SW
Q204 MUTE SW
Q205 GATE CIRCUIT
TU-L
TU-R
Q174 FM +B SW
Q172. Q173 L.P.F
Q171 PLL SYNTHESIZER & CONTROLLER
Q751 RDS DECODER UPC 1345CS
Q701 MICROPROCESSOR

BLOCK DIAGRAM AMPLIFIER SECTION MODEL TX-SV414PRO




Q301 EQ. AMP
PHONO
CD
REC TAPE-1 PB
REC TAPE-2 PLAY
VIDEO 1
OUT VIDEO 2 IN
TUNER
VIDEO-1
OUT VIDEO-2 IN
MONITOR OUT
R393 BALANCE
Q401 TONE AMP
R409.R415 BASS / TREBLE
Q404.Q405 GATE CIRCUIT
Q403 LOUDNESS SW
R431 VOLUME
Q491 MUTE SW
POWER AMP.
Q583 CURRENT DET.
Q581.Q582 DC DET.
PROTECTION CIRCUIT
RL591
RL592
SPEAKER TERMINALS
A
B
+B
Q571 HP AMP
HEADPHONE
Q572.Q573 HP AMP. B+ SW
Q591 SP RELAY SW
Q592 SP RELAY SW
Q583 GATE CIRCUIT
Q302 SELECTOR SW
SW
SHIFT REGISTER
Q481 VR MOTOR DRIVE
Q493 GATE CIRCUIT
LOUDNESS
15 VOL UP
16 VOL DOWN
38 FRONT MUT
17
Q703 RESET
49 PROTECT
Q303 VIDEO SW
Q304 GATE CIRCUIT
Q305 GATE CIRCUIT
CL 9
DATA 10
CE 12
51
VIDEO-2A 18
19
Q701
MICROPROCESSOR
39 SP B
40 SP A
41 POWER
47
U701
REMOTE SENSOR
Q951.Q952 POWER SW RELAY SW
F902
RL901
F903
P903
D9..
D925
Q921
Q923
Q922
Q924
TO FL TUBE
CONST. VOLTAGE
KO~K4
OPERATION KEIES
SYS IN 46
SYS OUT 42
SEGMENT
DIGIT
Q702 FL TUBE
Q707 BUFFER
VIDEO-IN
Q251 BUFFER
Q252 BUFFER
Q253 VIDEO SW
RI IN/OUT

MICROPROCESSOR CONNECTION DIAGRAM



TERMINAL DESCRIPTION

Pin No.	Function	Description
1~7	7G~1G	Grid output terminals Active"H"
8	VDD	Positive power supply terminal (+5V)
9	CL	Output terminal for CL-terminal of LC7821N , CK-terminal of TC9162N , CL-terminal of LC72140 , CK-terminal of TC9213P and SCK-terminal of M65830P
10	DATA	Output terminal for DI-terminal of LC7821N , DATA-terminal of TC9162N , DI-terminal of LC72140 , DATA-terminal of TC9213P and DATA-terminal of M65830P
11	DIN	Input terminal for DO-terminal of LC72140
12	CE	Output terminal for CE-teminal of LC7821N and LC72140
13	STB	Output terminal for ST-terminal of TC9162N , STB-terminal of TC9213P and REQ-terminal of M65830P.
14	$\overline{\text{RDSSCK}}$	Input terminal for CLK OUT-terminal of RDS decoder μ PC1346CS
15	VOLUP	Volume control output terminal
16	VOLDOWN	Refer to table 1
17	$\overline{\text{RESET}}$	Input terminal for System Reset
18	$\overline{\text{VIDEO-2A}}$	Output terminal for changing Audio Signal of VIDEO-2
19	VIDEO-1V	Output terminal for changing Visual Signal of VIDEO-1
20	AVSS	Grand terminal for A/D converter
21	MODE2	Initial setting Input terminal for changing AM stereo function
22	AREA	Initial setting(BAND0,BAND1,AM10K) input terminal for changing frequency range
23	MODE	Initial setting input terminal for surround function
24	K4	Key input terminal.
25	K3	Key input terminal.
26	K2	Key input terminal.
27	K1	Key input terminal.
28	K0	Key input terminal.
29	AVDD	Analog positive power terminal (+5V) for A/D converter
30	AVREF	Reference voltage input terminal for A/D converter
31	XT1	Crystal connection terminal for resonator of sub system clock
32	XT2	Not used.
33	VSS	Ground Terminal
34	X1	Connect the ceramic resonator 4.19MHz.
35	X2	Resonator connection terminal for resonstor of main system clock
36	TUMUT	Muting output terminal for tuner
37	SURMUT	Muting output terminal for center and rear amplifiers
38	FRONTMUT	Muting output terminal for front amplifier
39	SPBRL	Control output terminal for speaker relay B

Pin No.	Function	Description
40	SPARL	Control output terminal for speaker relay A
41	POWER	Power source control output terminal
42	SYSOUT	System code output terminal
43	RDSDATA	Input terminal for DATA OUT-terminal of μ PC1346CS
44	RDSSCK	Input terminal for SCK-terminal of μ PC1346CS
45	POFF	Detection input terminal for power failure
46	SYSIN	System code input terminal
47	REMIN	Input terminal for signal of remote control
48	IC	Internal connection terminal
49	PROTECT	Detection input terminal for movement of protection circuit
50	STBY/RECV	STAND-BY and RECEIVED indication output terminal
51	LOUD	Control output terminal for Loudness switch
52	VDD	Positive power supply terminal (+5V)
53	STEREO	Detection input terminal for stereo broadcasting
54	SD	Detection input terminal for radio station
55	RDSSIG	Detection input terminal for RDS broadcasting
56	RFIN	RF MODE input terminal
57~70	Pv~Pe	Segment output terminals Active"H"
71	VLOAD	Pull-down resistor connection terminal for control and driver of FIP
72~75	Pd~Pa	Segment output terminals Active"H"
76~80	12G~8G	Grid output terminals Active"H"

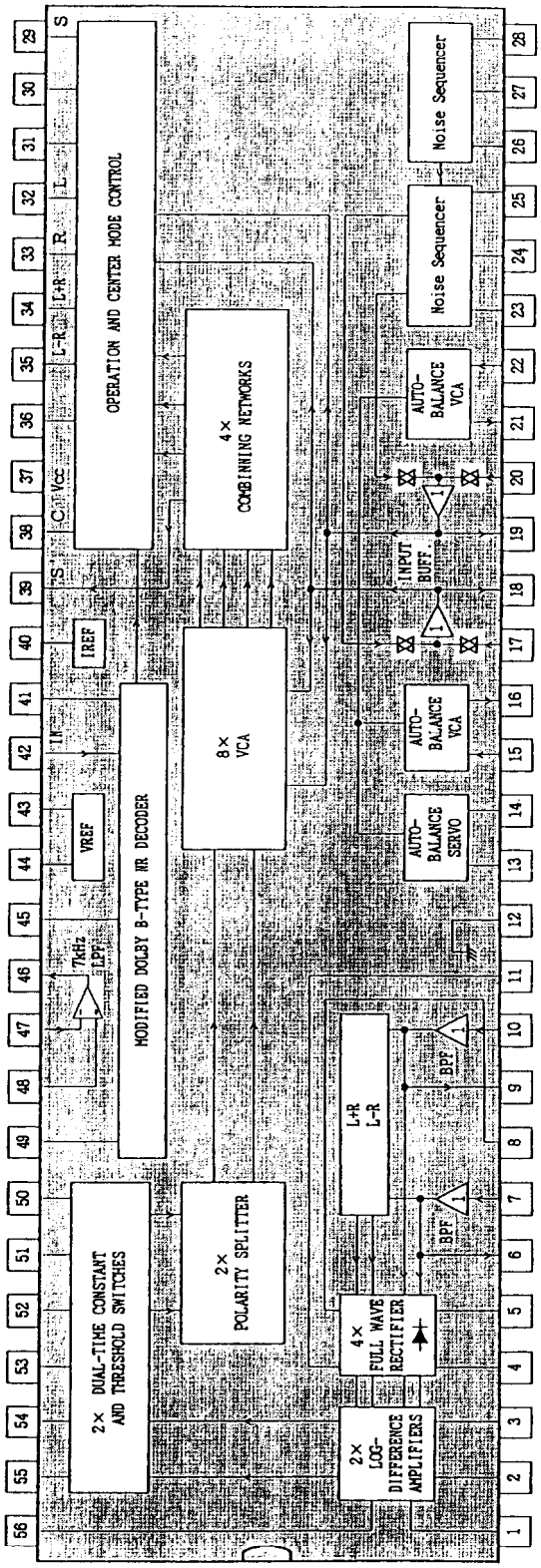
	Outputs	
Movement	VOLUP(#15)	VOLDOWN(#16)
Stop	H	H
UP	H	L
DOWN	L	H
POWER OFF	L	L

Table 1

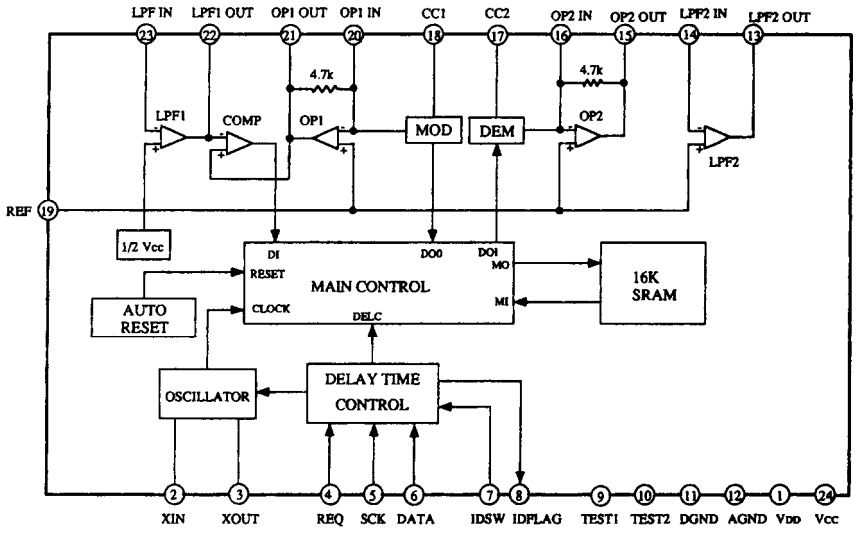
IC BLOCK DIAGRAMS AND DESCRIPTIONS

NJM2177L / M69032P (Dolby Pro Logic)

C-RECT-OUT	1	56	S-RECT-OUT
R-RECT-OUT	2	55	VLR-TC2
L-RECT-OUT	3	54	VLR-TC1
S-RECT-TC	4	53	VCS-TC1
C-RECT-TC	5	52	VCS-TC2
L-BPF-OUT	6	51	VCS-TC3
L-BPF-IN	7	50	VLR-TC3
L-RECT-TC	8	49	NR-TC
R-BPF-OUT	9	48	LPF-NINV-IN LPF non-inversion output
R-BPF-IN	10	47	LPF-INV-IN LPF inversion input
R-RECT-TC	11	46	LPF-OUT LPF output
GND	12	45	NR-WT
AB-GATE	13	44	VREF
AB-HOLD-TC	14	43	VREF
L-AB-IN Auto balance L ch input	15	42	NR-IN NR input
L-AB-OUT Auto balance L ch output	16	41	NR-VCF
L-IN Left channel input	17	40	IREF
L-INBUF-OUT L ch input/Buffer output	18	39	S'-OUT Surround output before delay processing
R-INBUF-OUT R ch input/Buffer output	19	38	C-OUT Center channel output
R-IN Light channel input	20	37	Vcc
R-AB-OUT Auto balance R ch output	21	36	CENTER-MODE
R-AB-IN Auto balance R ch input	22	35	L-R-OUT Substracter output (L-R)
NOISE-CNT-E Signal/Noise selector	23	34	L+R-OUT Adder output (L+R)
NOISE-CNT-A Noise output selector	24	33	R-OUT Right channel output
NOISE-CNT-B Noise output selector	25	32	L-OUT Left channel output
NOISE-REF	26	31	MODE-CNT 2/3/4 channels switch
NOISE-HPF	27	30	CENTER-CNT Center channel ON/OFF switch
NOISE-LPF	28	29	S-OUT Surround output

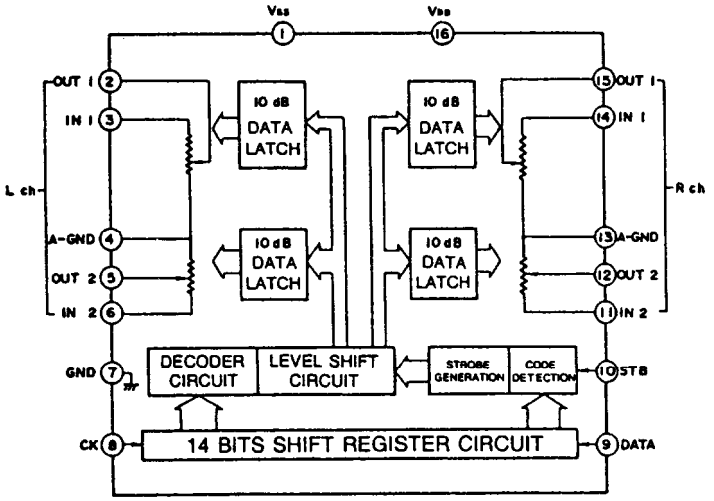


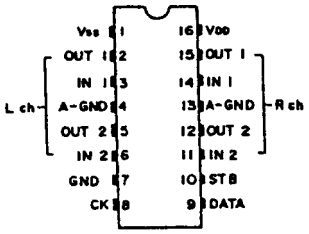
M65830P (Digitai Delay)



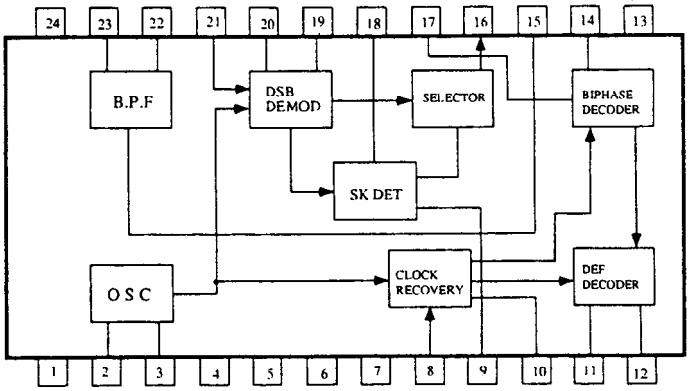
Pin No.	Mark	Function	I/O	Description
1	VDD	Digital power supply	-	
2	XIN	Resonator input	I	Connect the 2MHz ceramic resonator
3	XOUT	Resonator output	O	
4	REQ	Request	I	Data request input
5	SCK	Shift lock	I	Serial data shift clock input
6	DATA	Data	I	Serial data input
7	IDSW	ID switch	I	External input of 4th bit of ID code
8	IDFLAG	ID flag	O	Data input confirmation pulse and serial data output
9	TEST1	Test 1	-	Normal mode when low level
10	TEST2	Test 2	-	Normal mode when low level
11	D GND	Digital ground	-	
12	A GND	Analog ground	-	
13	LPF2 OUT	LPF filter 2 output	O	
14	LPF2 IN	LPF filter 2 input	I	
15	OP2 OUT	Operation amp. 2 output	O	
16	OP2 IN	Operation amp. 2 input	I	
17	CC2	Current control 2	-	Demodulation ADM control
18	CC1	Current control 1	-	Modulation ADM control
19	REF	Reference	-	Analog reference voltage=1/2VCC
20	OP1 IN	Operation amp. 1 input	I	
21	OP1 OUT	Operation amp. 1 output	O	
22	LPF1 OUT	LPF filter 1 output	O	
23	LPF1 IN	LPF filter 1 input	I	
24	VCC	Analog power supply	-	

TC9213P (Eiectro Volume)



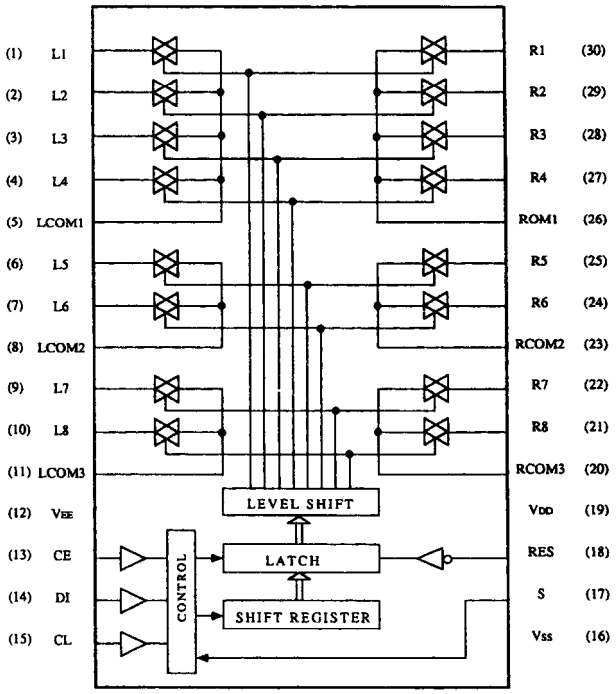


μPD1346CS (RDS Decoder)



No.	Terminal	Description	No.	Terminal	Description
1	Vcc	Supply voltage for the digital circuit	13	GND	Ground for the analog circuit
2	OSC IN	Resonator input	14	INTEG	Integrating filter terminal
3	OSC OUT	Resonator output	15	BPF ADJ	Adjustment fc of band pass filter
4	GND	Ground for the digital circuit	16	PSK OUT	Biphase signal output
5	TEST1	Test input	17	PSK IN	Biphase decoder input
6	TEST2	Test input	18	LPF SK	Low pass filter for the detection SK
7	OP.CTL	Control input of the operation stop	19	LPF Q	Low pass filter for the crossed detector
8	S/L CTL	Mode control input of the synchonizing detection	20	LPF I	Low pass filter for the synchronizing detector
9	SK OUT	SK detection output	21	DSB IN	DSB demodulator circuit input
10	RDS OUT	RDS synchonizing detection output	22	BPF OUT	Band pass filter output
11	CLOCK OUT	Bit rate clock output	23	BPF IN	Band pass filter input
12	DATA OUT	RDS data output	24	Vcc	Supply voltage for analog circuit

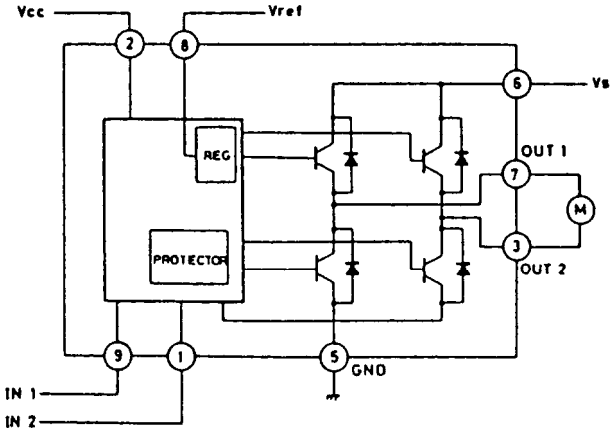
LC7821N (Analogue switch)



Pin No.	Terminal	Description
1	PHONO	
2	CD	
3	TAPE 1 REC	
4	TAPE 1 PB	Input/output terminals of audio signal
5	L COM 1	of left channel.
6	MONITOR	Control to the inside analogue switch
7	SOURCE	at the serial data.
8	L COM 2	
9	VIDEO 1	
10	TUNER	
11	L COM 3	
12	Vss	Negative power supply terminal. (-15V)
13	CE	Chip enable terminal.Connect the terminal SEL of microprocessor.
14	DI	Serial data input terminal.Connect the terminal DATA of microprocessor.
15	CL	Serial clock input terminal.Connect the terminal CL of microprocessor

Pin No.	Terminal	Description
16	Vss	Ground terminal.
17	S	Selector terminal
18	RES	Reset terminal.
19	VDD	Power supply terminal.(+15V)
20	R COM 3	
21	TUNER	
22	VIDEO 1	
23	R COM 2	Input/output terminals of audio signal
24	SOURCE	of right channel.
25	MONITOR	Control to the inside analogue switch
26	R COM 1	at the serial data.
27	TAPE 1 PB	
28	TAPE 1 REC	
29	CD	
30	PHONO	

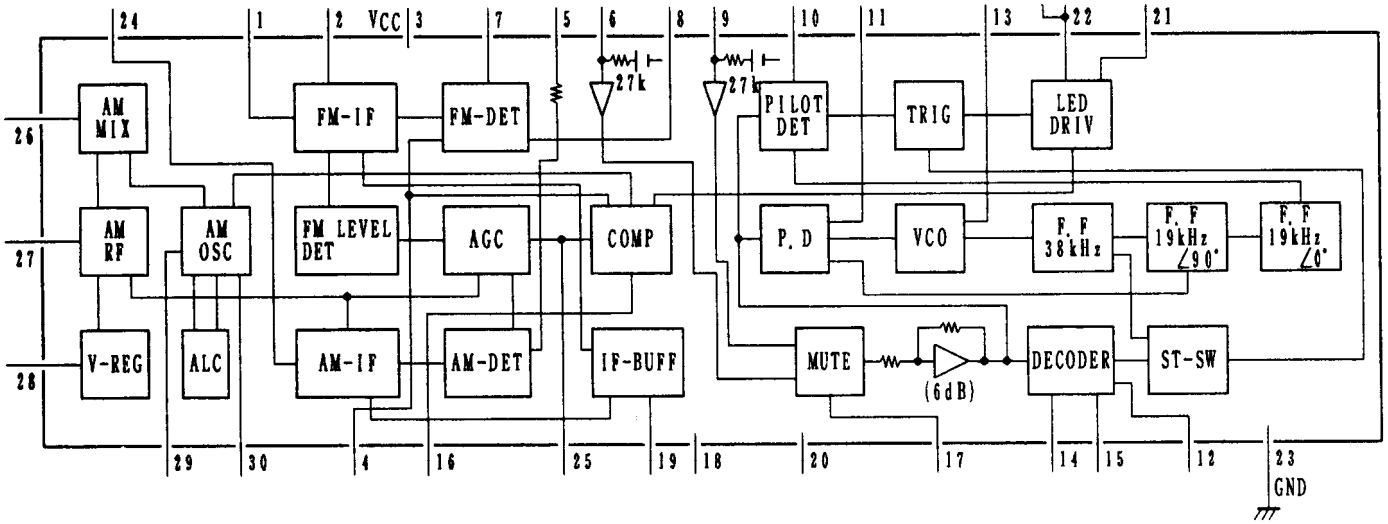
TA7291S (Volume driver)



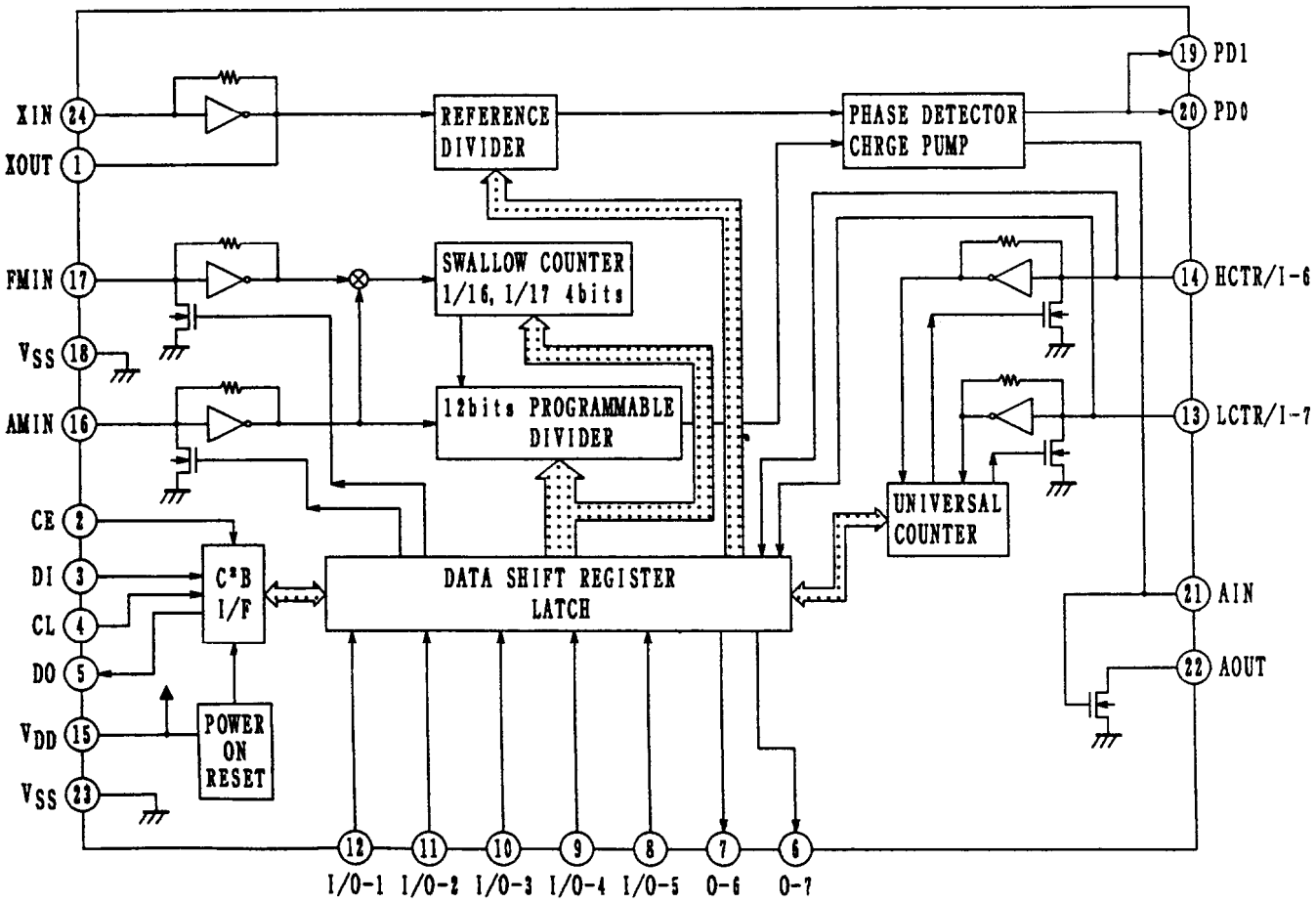
INPUT		OUTPUT		MODE
IN 1	IN 2	OUT 1	OUT 2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW: Counter clockwise direction
CW: Clockwise direction

LA1851N (AM, FM IF and MPX)

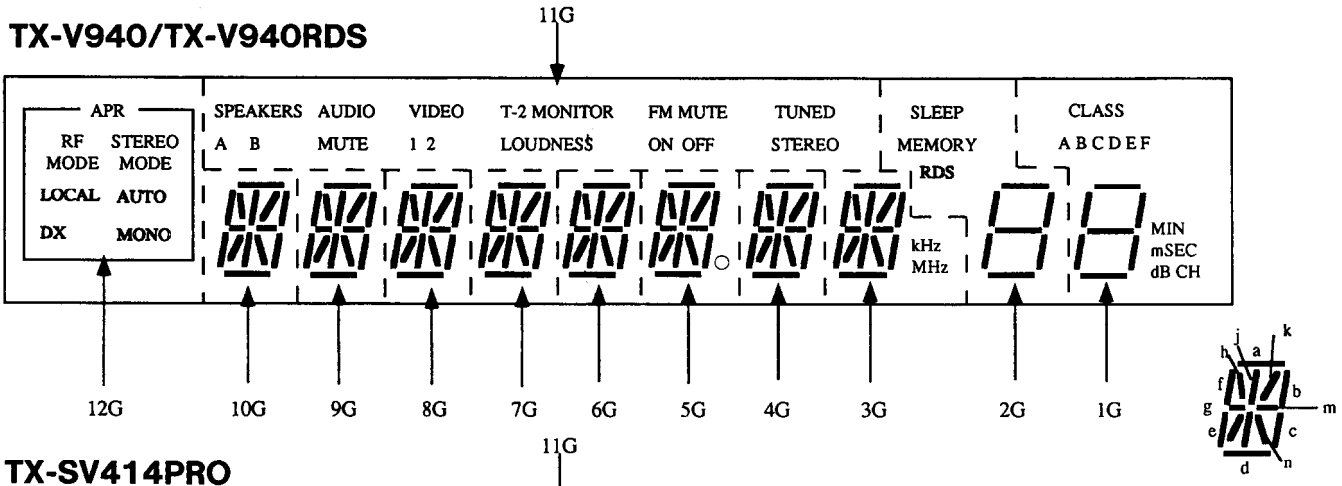


LC72140 (PLL Frequency Synthesized LSI)

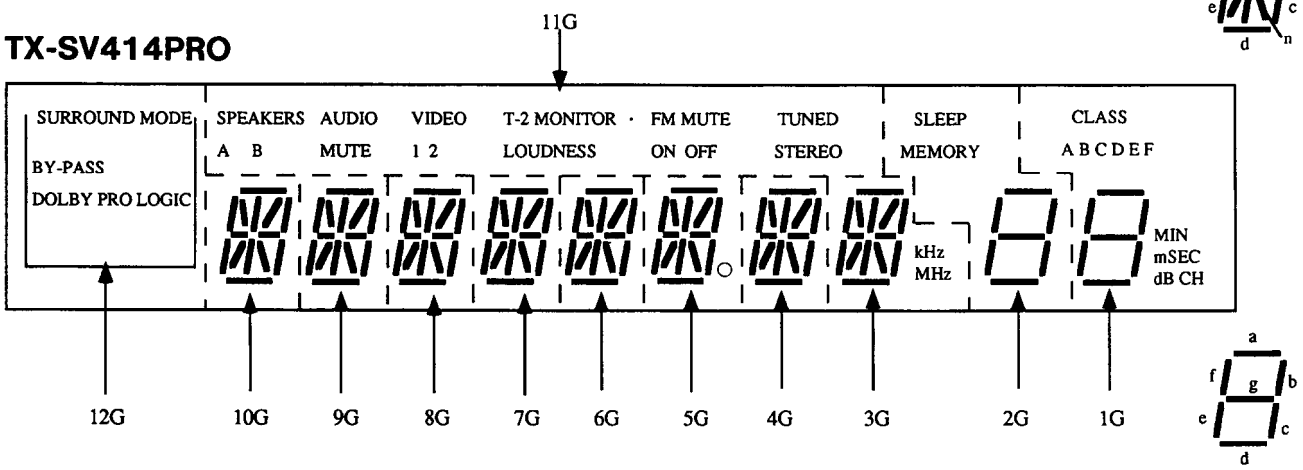


FL TUBE

TX-V940/TX-V940RDS



TX-SV414PRO



TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12
ELECTRODE	F1	F1	NP	NP	NP	Pv	Pu	Pt	Ps	Pr	Pp	Pn
TERMINAL NO.	13	14	15	16	17	18	19	20	21	22	23	24
ELECTRODE	Pm	Pk	Pj	Ph	Pg	Pf	Pe	Pd	Pc	Pb	Pa	NP
TERMINAL NO.	25	26	27	28	29	30	31	32	33	34	35	36
ELECTRODE	NP	NP	NP	12G	11G	10G	9G	8G	7G	6G	5G	4G
TERMINAL NO.	37	38	39	40	41	42	43	44	45	46		
ELECTRODE	3G	2G	1G	NP	NP	NP	NP	NP	F2	F2		

ADJUSTMENT PROCEDURES

Preparation

1.Input

FM mono:1kHz,75kHz devi.,60dB/ μ V

FM stereo:1kHz,75kHz devi.,60dB/ μ V

Pilot signal 19kHz 7.5kHz devi.

AM:400Hz 30% mod.

2.Outputs

Connect the non-inductive type resistors of 8 ohms to the speaker terminals A unless otherwise noted.

TX-SV414PRO

3. Standard Knob Positions

Master Volume Control .....Maximum
Bass Control .....Center
Treble Control .....Center
Balance Control .....Center
Input selector .....CD
Tape 2 Monitor.....OFF
Muting .....OFF
Loudness .....OFF
Speakers .....ON
Dolby Surround.....OFF
Center Mode .....Wide Band
Delay Time.....20 ms
Center Level .....0 dB
Rear Level .....0 dB

Idling Current Adjustment

Connect the DC voltmeter to the terminals P521, P522, and P821 (VCT and IID) on the main circuit pc board. Adjust the trim resistors R537, R538 and R837 so that the indicator of voltmeter becomes 3 ± 0.5mV.

NOTE:Adjust after switching on for 5 minutes.

Set Volume knob to the minimum position.

TX-V940/TX-V940RDS

3. Standard Knob Positions

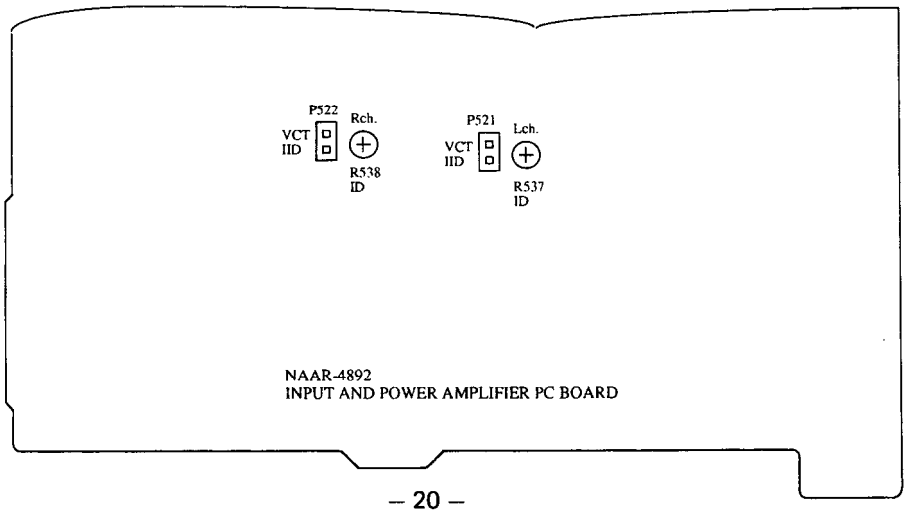
Master Volume Control .....Maximum
Bass Control .....Center
Treble Control .....Center
Balance Control .....Center
Input selector .....CD
Tape 2 Monitor.....OFF
Muting .....OFF
Loudness .....OFF
Speakers .....A

Idling Current Adjustment

Connect the DC voltmeter to the terminals P521, and P522 (VCT and IID) on the main circuit pc board. Adjust the trim resistors R537, and R538 so that the indicator of voltmeter becomes 3 ± 0.5mV.

NOTE:Adjust after switching on for 5 minutes.

Set Volume knob to the minimum position.



Set the unit to the test mode.

1. Press and hold down the CD button, then press the Power button.
2. " TEST-" is displayed on the display.
3. While "TEST-" is displayed, press the FM key.

FM ADJUSTMENT

Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM IF/RF	1	Fig.1	99.0MHz 1kHz 75kHz devi. 65dBf(60dB)	———	99.0MHz	DC voltmeter	L101	0±20mV	FM MUTE/MODE switch:ON/STEREO Repeat the steps 1 and 3 until no further adjustment is necessary.
	2					AC voltmeter	IFT on the front end	Maximum	
	3					Distortion analyzer	L102	Minimum	
Stereo Distortion		Fig.2	99.0MHz Ext. mod.65dBf(60dB)	Channel L or R 1kHz	99.0MHz	Distortion analyzer	IFT on the front end	Minimum	Don't turn more than ±180°
Stereo Separation	1	Fig.2	99.0MHz Ext. mod. 65dBf(60dB)	Channel L 1kHz	99.0MHz	Channel R AC voltmeter	R202	Minimum	Maximum and same separation
	2			Channel R 1kHz		Channel L AC voltmeter		Minimum	
Muting Level		Fig.2	99.0MHz 21.2dBf(16dB) <P/W models> 23.2dBf(18dB) <D model>	———	99.0MHz	Oscilloscope or TUNED indicator	R101	Signal output or light on	
RDS		Fig.3	99.0MHz Ext. mod.40dB	RDS data or 57kHz 3% devi.	99.0MHz	Oscilloscope	R786	Maximum	TX-V940RDS only

AM ADJUSTMENT

120V model

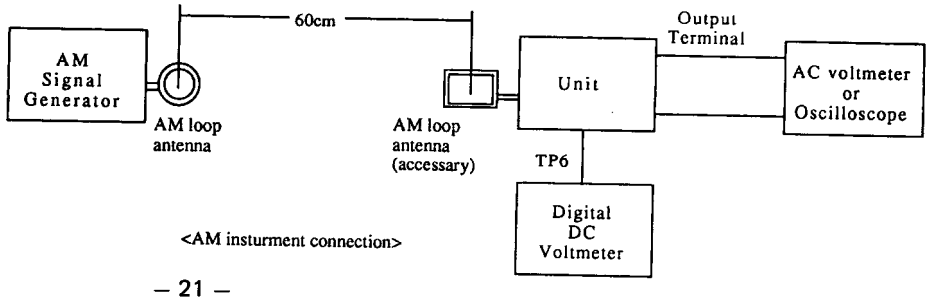
Step	AM SG output	Tuning Frequency	Output Indicator	Adjustment point	Adjust for
1		530kHz	Digital DC voltmeter	OSC coil on RF block L151	1.3±0.1V
2	600kHz 400Hz 30% mod. 60dB/m	600kHz	AC voltmeter	RF coil on RF block L151	Maximum
3	990kHz 400Hz 30% mod. 60dB/m	990kHz	AC voltmeter	L152	Maximum

Reference Specification
FM tuned voltage:87.9MHz~107.9MHz
More than 1.3V~Less than 10V
AM tuned voltage:530kHz~1710kHz
1.3±0.2V~Less than 9.0V

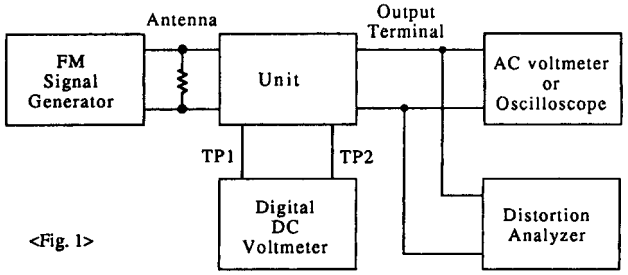
230V and Wolrdwide models

Step	AM SG output	Tuning Frequency	Output Indicator	Adjustment point	Adjust for
1		522kHz or 531kHz	Digital DC voltmeter	OSC coil on RF block L151	1.3±0.1V
2	603kHz 400Hz 30% mod. 60dB/m	603kHz	AC voltmeter	RF coil on RF block L151	Maximum
3	999kHz 400Hz 30% mod. 60dB/m	999kHz	AC voltmeter	L152	Maximum

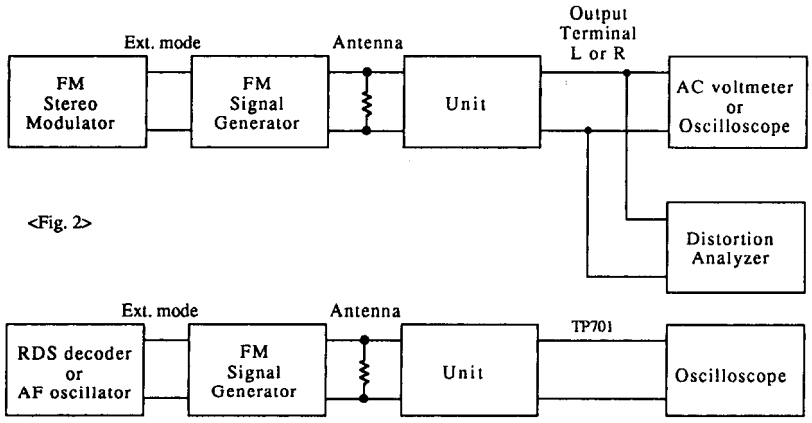
Reference Specification
FM tuned voltage:87.5MHz~108.0MHz
More than 1.3V~Less than 10V
AM tuned voltage:522kHz~1611kHz
1.3±0.2V~Less than 9.0V
(230V model)
AM tuned voltage:531kHz~1602kHz
1.3±0.2V~Less than 9.0V
(Worldwide model)



<AM insturment connection>

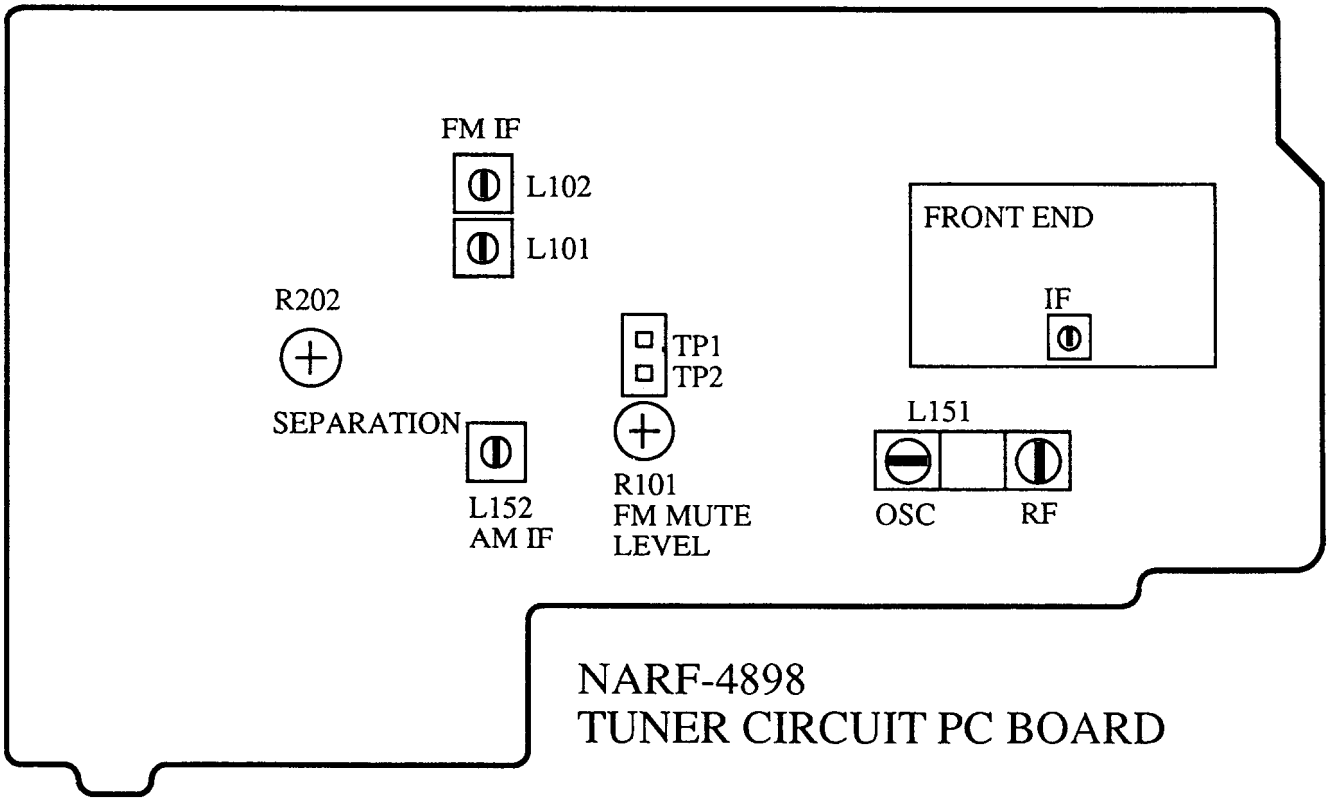


<Fig. 1>



<Fig. 2>

<Fig. 3>



NARF-4898
TUNER CIRCUIT PC BOARD

PRINTED CIRCUIT BOARD-PARTS LIST

MODEL TX-V940/TX-V940RDS

MAIN CIRCUIT PC BOARD (NAAR-4892-3/3A)

CIRCUIT NO.	PART NO.		DESCRIPTION
	ICs		
Q301	222502		NJM4558D-X
Q302	22240280		LC7821N
Q303,Q403	22240025		LC4966
Q401,Q402	22240247		BA15218N
Q481	22240239		TA7291S
Q571	22240752		NJM4556L
Q921	222780125NEC		78M12HF
Q922	222790125		79M12HF
Q923	222780565JRC		78M56
	Transistors		
Q304,Q404	2213510 or		DTA114ES or
Q493	2214350		RN2202
Q305,Q405	221282 or		DTC144ES or
Q572	2213560		RN1204
Q491,Q492	2213631 or		RN1241-A or
Q575,Q576	2213632		RN1241-B
Q501-Q504	2211732 or		2SC1845-F or
Q507,Q508	2211733		2SC1845-E
Q511,Q512	2211353 or		2SA949-O or
	2211354		2SA949-Y
Q513,Q514	2211633 or		2SC2229-O or
	2211634		2SC2229-Y
Q515,Q516	2213284 or		2SC1740S-R or
	2212115		2SC2458-GR
Q517,Q518	2202034 or		2SD1763A-D or
	2202035		2SD1763A-E
Q519,Q520	2202024 or		2SB1186A-D or
	2202025		2SB1186A-E
Q521,Q522	2201653,	*	2SC3856-O,
	2201654 or	*	2SC3856-Y or
	2201655	*	2SC3856-P
Q523,Q524	2201663,	*	2SA1492-O,
	2201664 or	*	2SA1492-Y or
	2201665	*	2SA1492-P
Q525,Q526	2211633 or		2SC2229-O or
	2211634		2SC2229-Y <D>
Q525,Q526	2211732 or		2SC1845-F or
	2211733		2SC1845-E <P/W>
Q573	2211163 or		2SC2120-O or
	2211164		2SC2120-Y
Q581,Q582	2211732 or		2SC1845-F or
	2211733		2SC1845-E
Q583	2211792 or		2SA992-F or
	2211793		2SA992-E
Q591,Q592	2213640 or		DTC123JS or
	2214660		RN1205
Q924	2211455		2SA1015-GR

CIRCUIT NO.	PART NO.		DESCRIPTION
	Diodes		
D507,D508	223222,		WG713A,
D571,D572	223205 or		1SS270A or
D591,D592	223163		1SS133
D911	22380038		RBV602
D921-D924	22380035 or		GP104003E or
D926-D928	22380046		AM01Z
D929	224453304		MTZ33D
D930,D931	223222,		WG713A,
	223205 or		1SS270A or
	223163		1SS133
	Coils		
L501,L502	231176S		S-1.3C
	Capacitors		
C303,C304	354741009		10μF,16V,Elect.
C307,C308	354721019		100μF,6.3V,Elect.
C309,C310	374726224		6200pF±5%,50V,Plastic
C311,C312	374721824		1800pF±5%,50V,Plastic
C313-C316	354741009		10μF,16V,Elect.
C391,C392	374721015		100pF±10%,50V,Plastic
C401,C402	354741009		10μF,16V,Elect.
C407-C412	354741009		10μF,16V,Elect.
C413,C414	374721534		0.015μF±5%,50V,Plastic
C417,C418	374721534		0.015μF±5%,50V,Plastic
C421,C422	374724734		0.047μF±5%,50V,Plastic
C481,C514	354721019		100μF,6.3V,Elect.
C491	354741009		10μF,16V,Elect.
C501,C502	354741009		10μF,16V,Elect.
C503,C504	374721015		100pF±10%,50V,Plastic
C507,C508	354742219		220μF,16V,Elect.
C513,C514	354722219		220μF,6.3V,Elect.
C521,C522	354772209		22μF,63V,Elect.
C527,C528	374724734		0.047μF±5%,50V,Plastic
C567,C568	354700109		1μF,160V,Elect.
C570	354791019		100μF,100V,Elect. <D>
	354771019		100μF,63V,Elect. <P/W>
C571-C573	354741009		10μF,16V,Elect.
C581	354721019		100μF,6.3V,Elect.
C915,C916	3504265		6800μF,71V,Elect. <D>
	3504266 or	#	6800μF,56V or
	3504267	#	6800μF,56V,Elect. <P/W>
C923	354753329		3300μF,25V,Elect.
C924	354764719		470μF,35V,Elect.
C927,C928	354741009		10μF,16V,Elect.
C931	354741009		10μF,16V,Elect.
C932	354761019		100μF,35V,Elect.
C933	354781019		100μF,50V,Elect.
C936-C938	354741009		10μF,16V,Elect.

CAUTION:Replacement for transistor of mark *,if necessary, must be made from the same beta group (H FE) as the original type.

CAUTIONS:Replacement for capacitor of mark # must be made the same sort capacitor.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R393	5104225	N11RGLC250KWT22Z, Balance
R409	5104230	N14RLC100KWT22Z,Bass
R415	5104230	N14RLC100KWT22Z,Treble
R533,R534	443522704	27 ohm,1/2W,Metal oxide
R535,R536	443521014	100 ohm,1/2W,Metal oxide
R537,R538	5210259	N06HR 2KBC,Trim
R543,R544	443523314	330 ohm,1/2W,Metal oxide
R545,R546	4000132Y	0.22 ohm×2,5W+5W,Metal plate
R551,R552	453630824	8.2 ohm,1W,Metal
R553,R554	443523924	3.9 kohm,1/2W,Metal oxide
R567,R568	453530224	2.2 ohm,1/2W,Metal
R570	443522204	22 ohm,1/2W,Metal oxide
R923	453530224	2.2 ohm,1/2W,Metal
R924	453530824	8.2 ohm,1/2W,Metal
R927,R930	443522204	22 ohm,1/2W,Metal oxide
R933	443524704	47 ohm,1/2W,Metal oxide
	Relaies	
RL591,RL592	25065339	NRL-2P5A-DC24-046
	Plugs	
P211a	25055652	NPLG-14P608
P613a	25055651	NPLG-12P607
	Terminals	
P301-P303	25045300	NPJ-6PDBL-159
P501	25060158	NTM-8PDMN084
	Sockets	
P711a-P713a	25051046	NSCT-10P833
JL261a	25051087	NSCT-3P874
JL912a,JL913a	25051109	NSCT-5P896

POWER SUPPLY CIRCUIT PC BOARD(NAETC-4893-3/3A)

CIRCUIT NO.	PART NO.	DESCRIPTION
R921,R922	453534794	0.47 ohm,1/2W,Metal resistors

SWITCH PC BOARD (NASW-4894-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
S911	25065437	NSS-22157P,Slide switch

DISPLAY CIRCUIT PC BOARD (NADIS-4897-3/3A/3C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q701	22240773Y	μ PD78042GF-064 <D/W>
	22240758Y	μ PD78043GF-071 <P>
Q751	22240679	μ PC1346CS <P>
	FL tube	
Q702	212128Y	FIP13KM8
	Remote control sensor	
U701	24130010Y	HC-312

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q703	221282 or	DTC144ES or
	2213560	RN1204
Q704-Q706	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR
Q707	2213510 or	DTA114ES or
	2214350	RN2202
	Diodes	
D701,D702	223205 or	1SS270A or
D704,D705	223163	1SS133
D703	224450913	MTZ9.1C
D706,D707	224450562	MTZ5.6B
D708	223205 or	1SS270A or
D710-D712	223163	1SS133
D709	225291D	SEL4910D-D,LED
D751	223205 or	1SS270A or
	223163	1SS133 <P>
	Resonator	
X701	3010163	CST4.19MGW,Ceramic
X751	3010203	AF6146CG,X'tal <P>
	Coils	
L701-L703	233454K220	NCH-1452 220K
	Capacitors	
C701	3000075Y	0.047F,5.5V,Super
C702	375524744	0.47 μ F±5%,50V,Plastic
C703,C709	354721019	100 μ F,6.3V,Elect.
C704	354780109	1 μ F,50V,Elect.
C706,C707	354780109	1 μ F,50V,Elect.
C711	354721019	100 μ F,6.3V,Elect.
C751	354721019	100 μ F,6.3V,Elect. <P>
C753,C754	374724724	4700pF±5%,50V,Plastic <P>
C755,C756	374723324	3300pF±5%,50V,Plastic <P>
C757	354780229	2.2 μ F,50V,Elect. <P>
C758	374724734	0.047 μ F±5%,50V,Plastic <P>
C759	374722234	0.022 μ F±5%,50V,Plastic <P>
C760	374724724	4700pF±5%,50V,Plastic <P>
	Resistor	
R786	5210265	N06HR50KBC,Trim
	Switches	
S701-S703	25035652	NPS-111-S604
S704-S706	25035652	NPS-111-S604 <P>
S707-S713	25035652	NPS-111-S604
S715-S737	25035652	NPS-111-S604
	Plugs	
P711b-P713b	25055659	NPLG-10P615
	Holder	
	27190937Y	FL tube
	Retainer	
	27141575Y	RI terminal

NOTE: <D>:120 V model only
<P>:230 V model only
<W>:Worldwide model only

TUNER CIRCUIT PC BOARD (NARF-4898-3/3B/3C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Front end	
TU001	240095Y	TFFJ2U316A <D>
	240089	FE415-G11 <P/W>
	ICs	
Q103	22240749Y	LA1851N
Q171	22240750Y	LC72140
	Transistors	
Q101	2210746	2SC945A-P <P/W>
Q102	2211723	2SC1923-O
Q104	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR <P>
Q131,Q173	2213284 or	2SC1740S-R or
Q201,Q202	2212115	2SC2458-GR
Q172	2212445	2SK365-GR
Q174,Q175	2213510 or	DTA114ES or
Q205	2214350	RN2202
Q203,Q204	2212794	2SD1468-R
	Diodes	
D131,D132	223191	SD101
D171	224450512	MTZ5.1B
	Resonators	
X171	3010228Y	XTL-4.5M,Crystal
X201	3010227Y	CSB456F15,Ceramic
	Coils and transformers	
L101	233457Y	NFIF-4081
L102	233458Y	NFIF-4082
L103	233454M022	NCH-1452 022M
L104	233383	NMC-6070
L201,L202	233355A	NMC-4059
L151	232163	NMRF-7065
L152	232139	NMIF-4062
	Ceramic filters	
X101	3010071	SFE10.7MA5
X102	3010071	SFE10.7MA5 <P/W>
X103	3010071	SFE10.7MA5 <D>
	3010130	SFE10.7MZ2A <P/W>
X151	3010123	SFZ-450JL
	Capacitors	
C001	354741019	100 μ F,16V,Elect.
C107-C109	354780229	2.2 μ F,50V,Elect.
C110,C171	354741019	100 μ F,16V,Elect.
C132	354742209	22 μ F,16V,Elect.
C133	354784799	0.47 μ F,50V,Elect.
C151	354741009	10 μ F,16V,Elect.
C155,C156	354741009	10 μ F,16V,Elect.
C157	374723324	3300pF ± 5%,50V,Plastic
C158	374721534	0.015 μ F ± 5%,50V,Plastic
C159,C180	354721019	100 μ F,6.3V,Elect.
C174	374723334	0.033 μ F ± 5%,50V,Plastic
C175	354780229	2.2 μ F,50V,Elect.
C176	374722234	0.022 μ F ± 5%,50V,Plastic
C177	354782299	0.22 μ F,50V,Elect.
C201,C202	354780109	1 μ F,50V,Elect.
C203	354783399	0.33 μ F,50V,Elect.
C204	354741019	100 μ F,16V,Elect.
C205,C206	374721534	0.015 μ F ± 5%,50V,Plastic <D>
	374721034	0.01 μ F ± 5%,50V,Plastic <P>
	374721234	0.012 μ F ± 5%,50V,Plastic <W>
C207-C210	354741009	10 μ F,16V,Elect. <D>
C213-C216	354741009	10 μ F,16V,Elect. <P/W>
C217	354780229	2.2 μ F,50V,Elect.
	Resistors	
R101	5210263	N06HR 20KBC,Trim
R202	5210259	N06HR2KBC,Trim
	Terminal	
P101	25060160	NTM-4PDML086 <D>
	25060117	NTM-2PDML051 <P/W>
	Socket	
P211b	25050986	NSCT-14P773

VOLUME CIRCUIT PC BOARD (NAAF-4899-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
R431,R432	5104334Y	N16RGL100KBT25F,Variable,Volume
P613b	25050985	NSCT-12P772,Socket

POWER SUPPLY CIRCUIT PC BOARD (NAPS-4900-3/3A/3B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q951	221282 or	DTC144ES or
	2213560	RN1204
Q952	2213650 or	DTD113ZS or
	2214680	RN1226
	Diodes	
D951-D954	22380035 or	GP104003E or
	22380046	AM01Z
D955	223222,	WG713A,
	223205 or	1SS270A or
	223163	1SS133
	Capacitors	
C901	3500065A	⚠ DE7150FZ103PAC400V/125V
C952	354742219	220 μ F,16V,Elect.
	Resistors	
R901	431523355	⚠ 3.3M Ω ,1/2W,Solid <D>
R951	453530824	8.2 ohm,1/2W,Metal
	Power transformer	
T902	2300670	⚠ NPT-1111D <D>
	2300671	⚠ NPT-1111P <P>
	2300672	⚠ NPT-1111DG <W>

CIRCUITNO.	PART NO.		DESCRIPTION
	Relay		
RL901	25065483	⚠	NRL-1P5A-DC-12-084
	Fuses		
F901	252166Y	⚠	6.3A-UL/T-237 <D/W>
F902	252076	⚠	3.15A-SE-EAK <P/W>
F903	252075	⚠	2.5A-SE-EAK <P>
	Fuseholders		
F901a	25050065	⚠	YSH403T <D/W>
F902a	25050065	⚠	YSH403T <P/W>
F903a	25050065	⚠	YSH403T <P>
	Plug		
P901a	25055675		NPLG-2P631 <D>
	Socket		
P902	25051126	⚠	NSCT-4P913,AC outlet <D>
	25050410	⚠	NSCT-2P235,AC outlet <P/W>
	Switch		
S901	25065437	⚠	NSS-22157P,Voltage selector <W>

VIDEO CIRCUIT PC BOARD (NAETC-4901-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q253	222840661	4066B
	Transistors	
Q251,Q252	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR
	Diode	
D251	223222,	WG713A,
	223205 or	1SS270A or
	223163	1SS133
	Capacitors	
C251,C252	354721019	100 μ F,6.3V,Elect.
C255,C256	354724719	470 μ F,6.3V,Elect.
C257	354721019	100 μ F,6.3V,Elect.
C259	354741019	100 μ F,16V,Elect.
	Terminal	
P251	25045339	NPJ-4PDYE190

RI TERMINAL PC BOARD(NAETC-4904-3/3B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P961	25045330	NPJ-2PDBL184
	Switch	
S961	25065286	NSS-22112,Band <W>

HEADPHONE TERMINAL PC BOARD(NASW-4905-3)

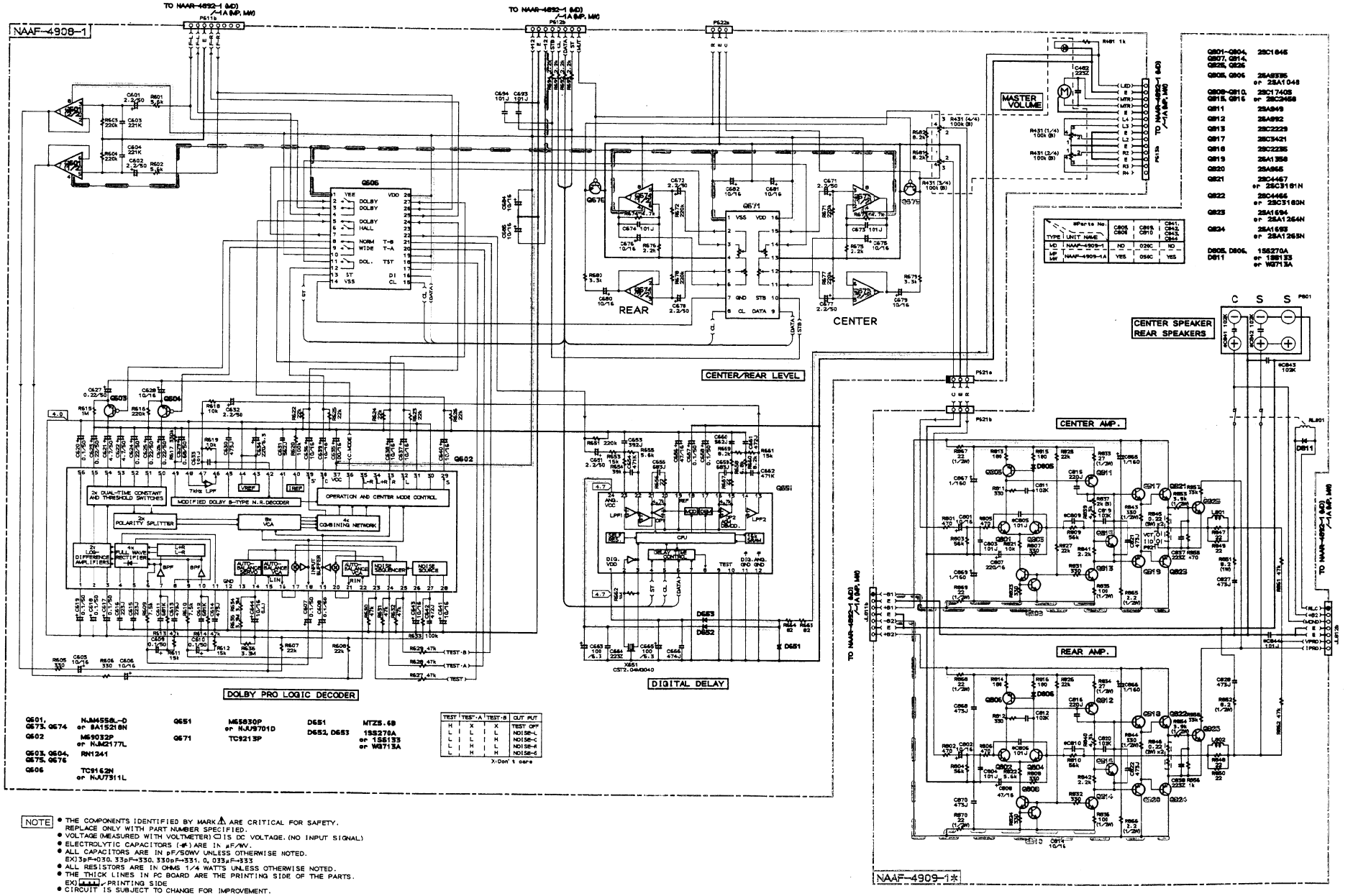
CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P503	25045255	YKB21-5009

LOUDNESS SWITCH PC BOARD(NASW-4906-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Socket	
S714	25035652	NPS-111-S604

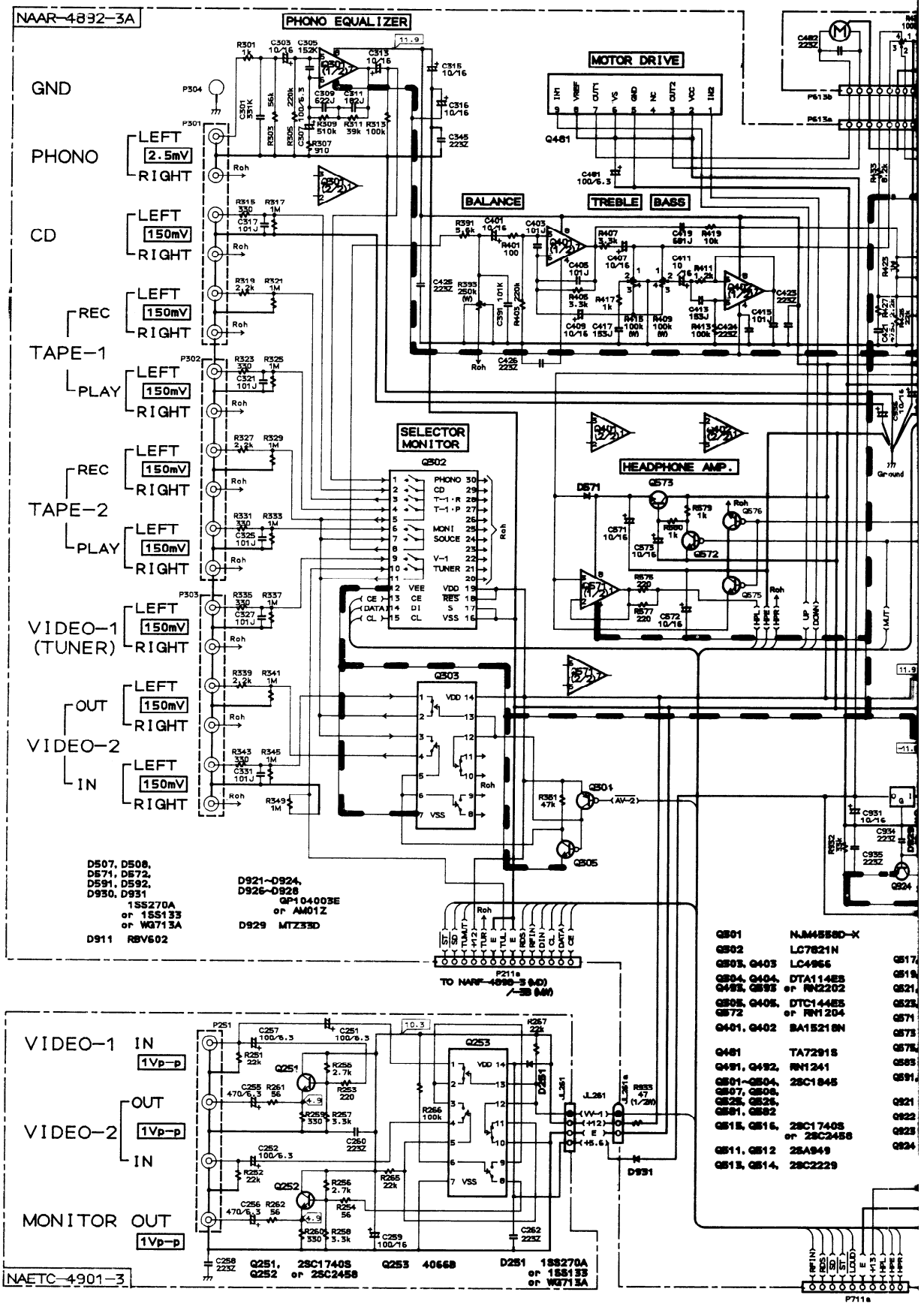
NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

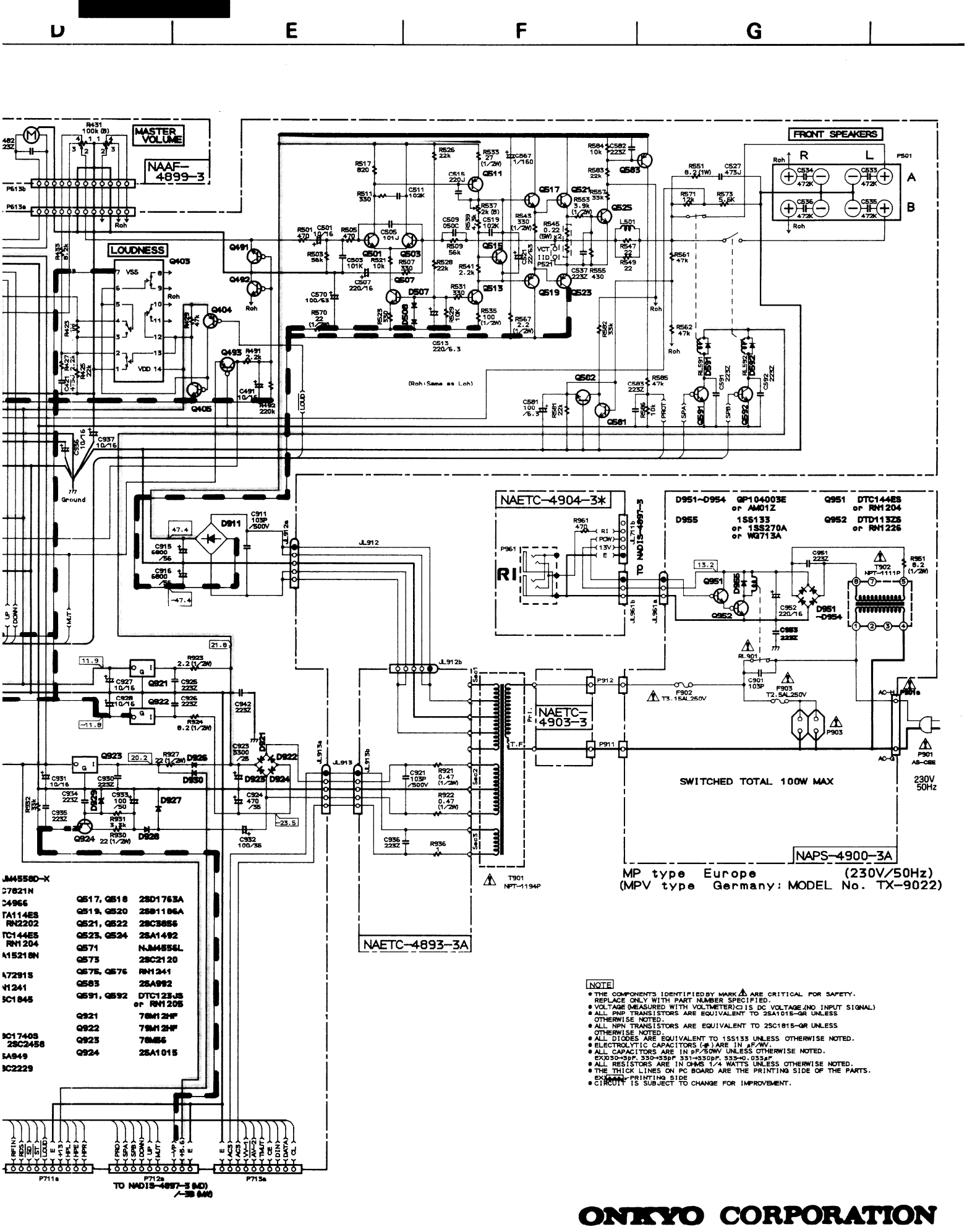
SCHEMATIC DIAGRAM
MODEL TX-SV414PRO



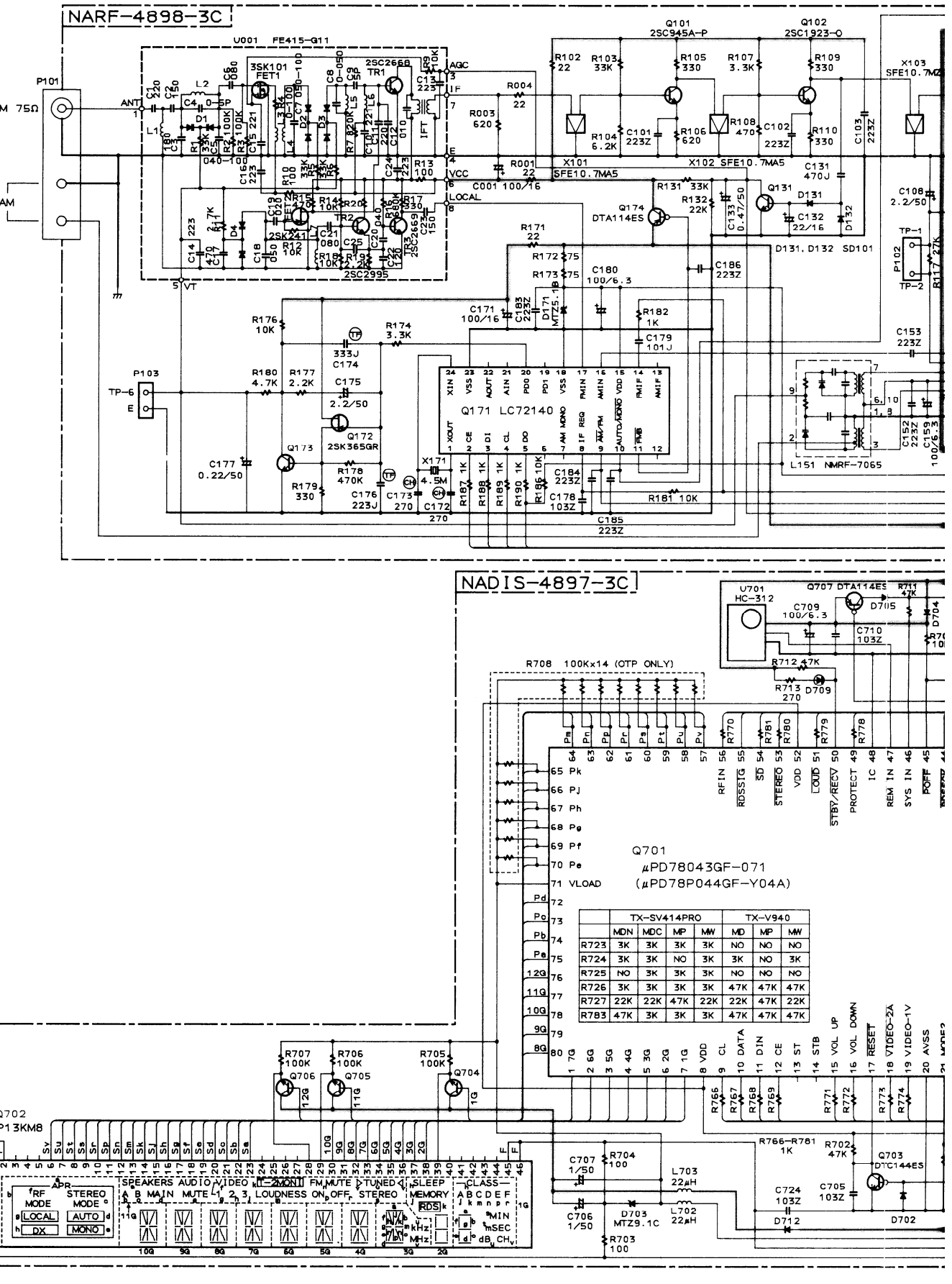
NOTE
- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) C IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (*) ARE IN μF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED. EX) 3pF→030, 33pF→330, 330pF→331, 0.033μF→333
- ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS. EX) ▬▬ : PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

SCHEMATIC DIAGRAM
MODEL TX-V940RDS

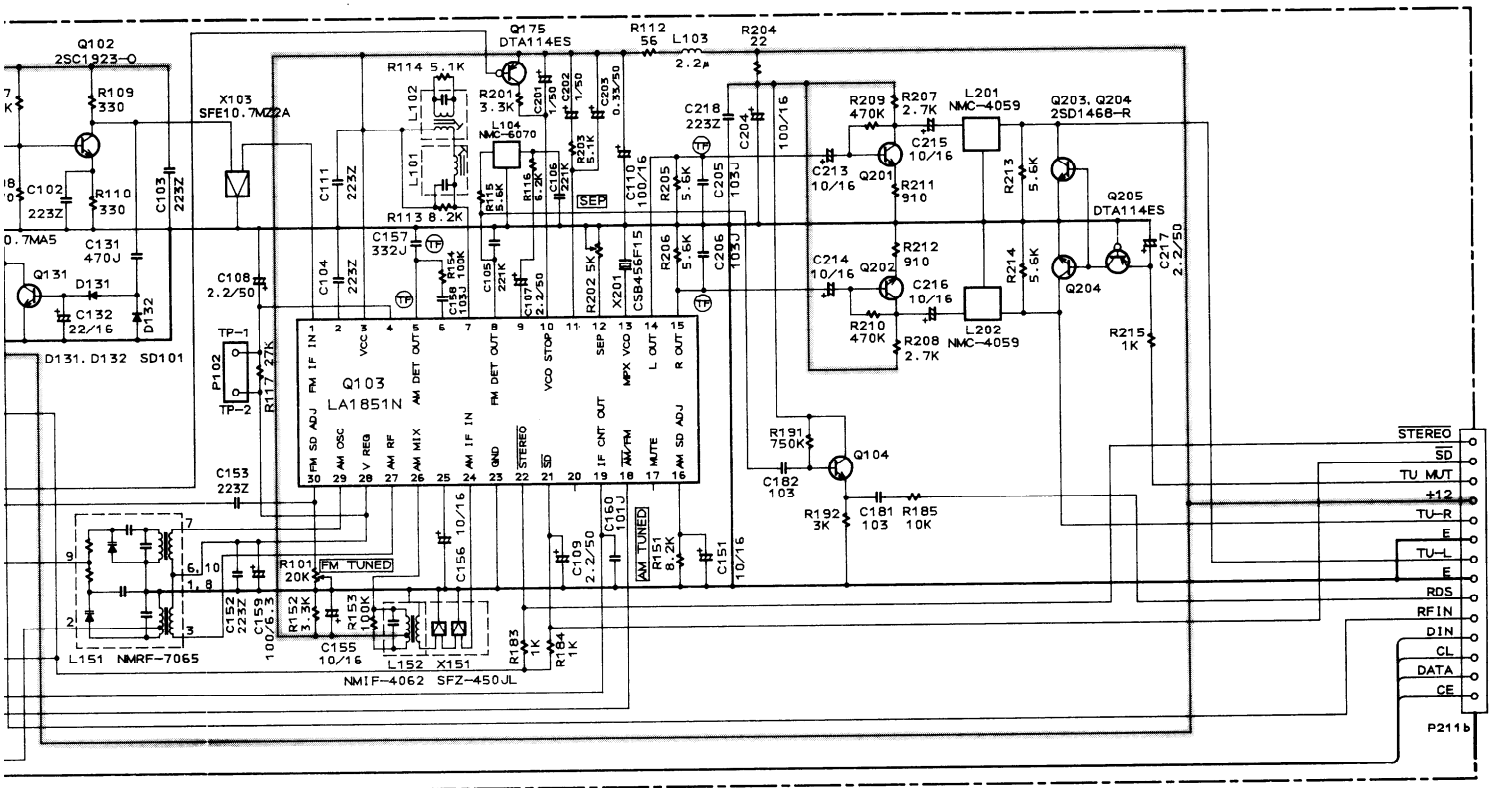


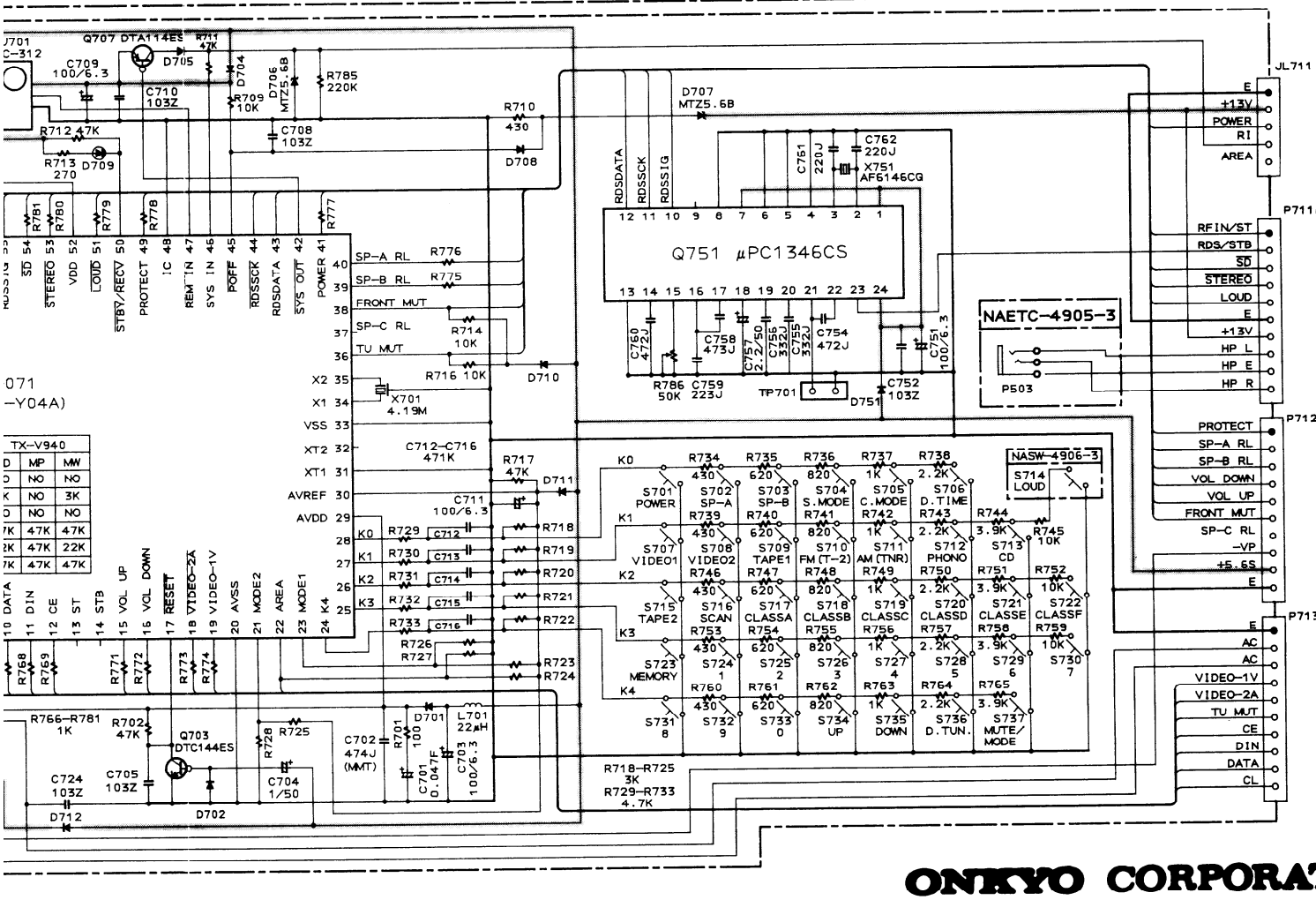

MASTER VOLUME
NAAF-4899-3
FRONT SPEAKERS
LOUDNESS
NAETC-4904-3*
NAETC-4903-3
NAETC-4893-3A
NAPS-4900-3A
SWITCHED TOTAL 100W MAX
230V 50Hz
MP type Europe (230V/50Hz)
(MPV type Germany: MODEL No. TX-9022)
TO NADIS-4897-3 (MD)
ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-V940RDS



D E F G


Q102 2SC1923-O
Q175 DTA114ES
R112 56
L103 2.2μ
R204 22
X103 SFE10.7MZ2A
L102
L104 NMC-6070
L101
R114 5.1K
R201 3.3K
C201 1/50
C202 1/50
C205 0.33/50
C218 223Z
C204 100/16
R209 470K
R207 2.7K
L201 NMC-4059
Q203, Q204 2SD1468-R
C215 10/16
C213 10/16
Q201
R211 910
R213 5.6K
Q205 DTA114ES
R113 8.2K
R115 5.6K
R116 6.2K
C206 221K
SEP
C110 100/16
R205 5.6K
C205 105J
C157 332J
R154 100K
C105 221K
C106 105J
C107 2.2/50
R202 5K
X201 CSB456F15
R206 5.6K
C206 105J
C214 10/16
Q202
C216 10/16
R210 470K
R208 2.7K
L202 NMC-4059
R214 5.6K
Q204
C217 2.2/50
R215 1K
C111 223Z
C104 223Z
C108 2.2/50
C103 223Z
R110 330
R109 330
C102 223Z
0.7MA5
C131 470J
Q131
D131
C132 22/16
D132
D131. D132 SD101
TP-1
P102
TP-2
R117 27K
Q103 LA1851N
C153 223Z
R191 750K
Q104
C182 103
R192 3K
C181 103
R185 10K
C150 105J
AM TUNED
R151 8.2K
C151 10/16
C156 10/16
C109 2.2/50
R101 20K
FM TUNED
R152 3.3K
R153 100K
C152 223Z
C158 100/6.3
C155 10/16
L151 NMRF-7065
L152 X151
NMIF-4062 SFZ-450JL
R183 1K
R184 1K
STEREO
SD
TU MUT
+12
TU-R
E
TU-L
E
RDS
RFIN
DIN
CL
DATA
CE
P211b


Q707 DTA114ES
R711 47K
D705
C709 100/6.3
C710 103Z
R709 10K
D704
D706 MTZ5.6B
R785 220K
R712 47K
R713 270
D709
C708 103Z
R710 430
D708
D707 MTZ5.6B
JL711
E
+13V
POWER
RI
AREA
P711b
RFIN/ST
RDS/STB
SD
STEREO
LOUD
E
+13V
HP L
HP E
HP R
P503
NAETC-4905-3
RDSDATA
RDSSCK
RDSSIG
C762 220J
C751 220J
X751 AF6146CG
Q751 μPC1346CS
C760 472J
C758 473J
C757 2.2/50
C756 332J
C755 332J
C754 472J
C751 100/6.3
R786 50K
C759 223J
TP701
D751
C752 103Z
SD 54
STEREO 53
VDD 52
LOUD 51
STBY/RECV 50
PROTECT 49
IC 48
REM IN 47
SYS IN 46
POFF 45
RDSSCK 44
RDSDATA 43
SYS OUT 42
POWER 41
R781
R780
R779
R778
R777
SP-A RL
SP-B RL
FRONT MUT
SP-C RL
TU MUT
R776
R775
R714 10K
R716 10K
D710
X2 35
X1 34
X701 4.19M
VSS 33
XT2 32
XT1 31
AVREF 30
AVDD 29
C712-C716 471K
R717 47K
D711
C711 100/6.3
R718
R719
R720
R721
R722
R723
R724
R726
R727
K0
K1
K2
K3
K4
R729 C712
R730 C713
R731 C714
R732 C715
R733 C716
R734 R735 R736 R737 R738
S701 POWER
S702 SP-A
S703 SP-B
S704 S.MODE
S705 C.MODE
S706 D.TIME
S707 VIDEO1
S708 VIDEO2
S709 TAPE1
S710 FM (T-2)
S711 AM (TNR)
S712 PHONO
S713 CD
S714 LOUD
NASW-4906-3
R739 R740 R741 R742 R743 R744 R745 10K
S715 TAPE2
S716 SCAN
S717 CLASSA
S718 CLASSB
S719 CLASSC
S720 CLASSD
S721 CLASSE
S722 CLASSF
R746 R747 R748 R749 R750 R751 R752 10K
S723 MEMORY
S724 1
S725 2
S726 3
S727 4
S728 5
S729 6
S730 7
R753 R754 R755 R756 R757 R758 R759
R760 R761 R762 R763 R764 R765
S731 8
S732 9
S733 0
S734 UP
S735 DOWN
S736 D.TUN.
S737 MUTE/ MODE
P712b
PROTECT
SP-A RL
SP-B RL
VOL DOWN
VOL UP
FRONT MUT
SP-C RL
-VP
+5.5S
E
P713b
E
AC
AC
VIDEO-1V
VIDEO-2A
TU MUT
CE
DIN
DATA
CL
DATA 10
DIN 11
CE 12
ST 13
STB 14
VOL UP 15
VOL DOWN 16
RESET 17
VIDEO-2A 18
VIDEO-1V 19
AVSS 20
MODE2 21
AREA 22
MODE1 23
K4 24
R768
R769
R771
R772
R773
R774
R766-R781 1K
R702 47K
Q703 DTC144ES
R728
R725
C724 103Z
C705 103Z
C704 1/50
D712
D702
C702 474J (MMT)
R701 100
D701
C701 0.047F
L701 22μH
C703 100/6.3
R718-R725 3K
R729-R733 4.7K
TX-V940
MP MW
NO NO
NO 3K
NO NO
47K 47K
47K 22K
47K 47K
071
-Y04A)

PRINTED CIRCUIT BOARD-PARTS LIST

MODEL TX-SV414PRO

MAIN CIRCUIT PC BOARD (NAAR-4892-1/1A)

CIRCUIT NO.	PART NO.		DESCRIPTION
	ICs		
Q301	222502		NJM4558D-X
Q302	22240280		LC7821N
Q303,Q403	22240025		LC4966
Q401,Q402	22240247		BA15218N
Q481	22240239		TA7291S
Q571	22240752		NJM4556L
Q921	222780125NEC		78M12HF
Q922	222790125		79M12HF
Q923	222780565JRC		78M56
	Transistors		
Q304,Q404	2213510 or		DTA114ES or
Q493	2214350		RN2202
Q305,Q405	221282 or		DTC144ES or
Q572	2213560		RN1204
Q491,Q492	2213631 or		RN1241-A or
Q575,Q576	2213632		RN1241-B
Q501-Q504	2211732 or	*	2SC1845-F or
Q507,Q508	2211733	*	2SC1845-E
Q505,Q506	2213354 or		2SA933S-R or
	2212125		2SA1048-GR
Q509,Q510	2213284 or		2SC1740S-R or
Q515,Q516	2212115		2SC2458-GR
Q511,Q512	2211353 or		2SA949-O or
	2211354		2SA949-Y
Q513,Q514	2211633 or		2SC2229-O or
	2211634		2SC2229-Y
Q517,Q518	2201944,	*	2SD1763-D,
	2201945 or	*	2SD1763-E or
	2201946	*	2SD1763-F
Q519,Q520	2201934,	*	2SB1186-D,
	2201935 or	*	2SB1186-E or
	2201936	*	2SB1186-F
Q521,Q522	2202523,	*	2SC4468-O,
	2202524,	*	2SC4468-Y,
	2202526,	*	2SC4468-P,
	2202292 or	*	2SC3182N-R or
	2202293	*	2SC3182N-O
Q523,Q524	2202513,	*	2SA1695-O,
	2202514,	*	2SA1695-Y,
	2202516,	*	2SA1695-P,
	2202282 or	*	2SA1265N-R or
	2202283	*	2SA1265N-O
Q525,Q526	2211732 or		2SC1845-F or
	2211733		2SC1845-E
Q573	2211163 or		2SC2120-O or
	2211164		2SC2120-Y
Q575,Q576	2213631 or		RN1241-A or
	2213632		RN1241-B

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q581,Q582	2211732 or		2SC1845-F or
	2211733		2SC1845-E
Q583	2211792 or		2SA992-F or
	2211793		2SA992-E
Q591-Q593	2213640 or		DTC123JS or
	2214660		RN1205
Q924	2211455		2SA1015-GR
	Diodes		
D505,D506	223222,		WG713A,
D571,D572	223205 or		1SS270A or
D591,D592	223163		1SS133
D911	22380038		RBV602
D925	22380048		RBA402
D926-D928	22380035 or		GP104003E or
	22380046		AM01Z
D929	224453304		MTZ33D
D930,D931	223222,		WG713A,
	223205 or		1SS270A or
	223163		1SS133
	Coils		
L501,L502	231176S		S-1.3C
	Capacitors		
C303,C304	354741009		10μF,16V,Elect.
C307,C308	354721019		100μF,6.3V,Elect.
C309,C310	374726224		6200pF±5%,50V,Plastic
C311,C312	374721824		1800pF±5%,50V,Plastic
C313-C316	354741009		10μF,16V,Elect.
C391,C392	374721015		100pF±10%,50V,Plastic
C401,C402	354741009		10μF,16V,Elect.
C407-C412	354741009		10μF,16V,Elect.
C413,C414	374721534		0.015μF±5%,50V,Plastic
C417,C418	374721534		0.015μF±5%,50V,Plastic
C421,C422	374724734		0.047μF±5%,50V,Plastic
C481	354721019		100μF,6.3V,Elect.
C491	354741009		10μF,16V,Elect.
C501,C502	354741009		10μF,16V,Elect.
C503,C504	374721015		100pF±10%,50V,Plastic
C507,C508	354742219		220μF,16V,Elect.
C513,C514	354722219		220μF,6.3V,Elect.
C521,C522	354772209		22μF,63V,Elect.
C527,C528	374724734		0.047μF±5%,50V,Plastic
C567,C568	354700109		1μF,160V,Elect.
C570	354771019		100μF,63V,Elect.
C571-C573	354741009		10μF,16V,Elect.
C581	354721019		100μF,6.3V,Elect.
C915,C916	3504263 or	*	8200μF,56V or
	3504268	*	8200μF,56V,Elect.
C923	3504213		4700μF,35V,Elect.
C924	354763329		3300μF,35V,Elect.

CAUTION:Replacement for transistor of mark *,if necessary, must be made from the same beta group (H FE) as the original type.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C927,C928	354741009	10μF,16V,Elect.
C931	354741009	10μF,16V,Elect.
C932	354761019	100μF,35V,Elect.
C933	354781019	100μF,50V,Elect.
C936,C937	354741009	10μF,16V,Elect.
	Resistors	
R393	5104225	N11RGLC250KWT22Z, Balance
R409	5104230	N14RLC100KWT22Z,Bass
R415	5104230	N14RLC100KWT22Z,Treble
R533,R534	443522704	27 ohm,1/2W,Metal oxide
R535,R536	443521014	100 ohm,1/2W,Metal oxide
R537,R538	5210259	N06HR 2KBC,Trim
R543,R544	443523314	330 ohm,1/2W,Metal oxide
R545,R546	4000132Y	0.22 ohm×2,5W+5W,Metal plate
R551,R552	453630824	8.2 ohm,1W,Metal
R553,R554	443523924	3.9 kohm,1/2W,Metal oxide
R567,R568	453530224	2.2 ohm,1/2W,Metal
R570	443522204	22 ohm,1/2W,Metal oxide
R923	453530224	2.2 ohm,1/2W,Metal
R924	453530824	8.2 ohm,1/2W,Metal
R927,R930	443522204	22 ohm,1/2W,Metal oxide
R933	443524704	47 ohm,1/2W,Metal oxide
R934	453530564	5.6 ohm,1/2W,Metal <D>
	443524704	47 ohm,1/2W,Metal oxide <P/W>
	Relaies	
RL591,RL592	25065485	NRL-2P2A-DC24-086
	Plugs	
P211a,P613a	25055652	NPLG-14P608
P611a	25055678	NPLG-8P634
P612a	25055649	NPLG-8P605
	Terminals	
P301-P303	25045300	NPJ-6PDBL-159
P501	25060158	NTM-8PDMN084
P504	25045302	NPJ-1PDBL-161
	Sockets	
P711a-P713a	25051046	NSCT-10P833
JL261a	25051087	NSCT-3P874
JL811a,JL812a	25051111	NSCT-7P898
JL912a,JL913a	25051109	NSCT-5P896

POWER SUPPLY CIRCUIT PC BOARD(NAETC-4893-1/1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
F921,F922	252166Y	⚠ 6.3A-UL/T-237,Fuse <D>
	252076	⚠ 6.3A-SE-EAK,Fuse <P/W>
F921a,F922a	25050065	⚠ YSH403T,Fuseholders

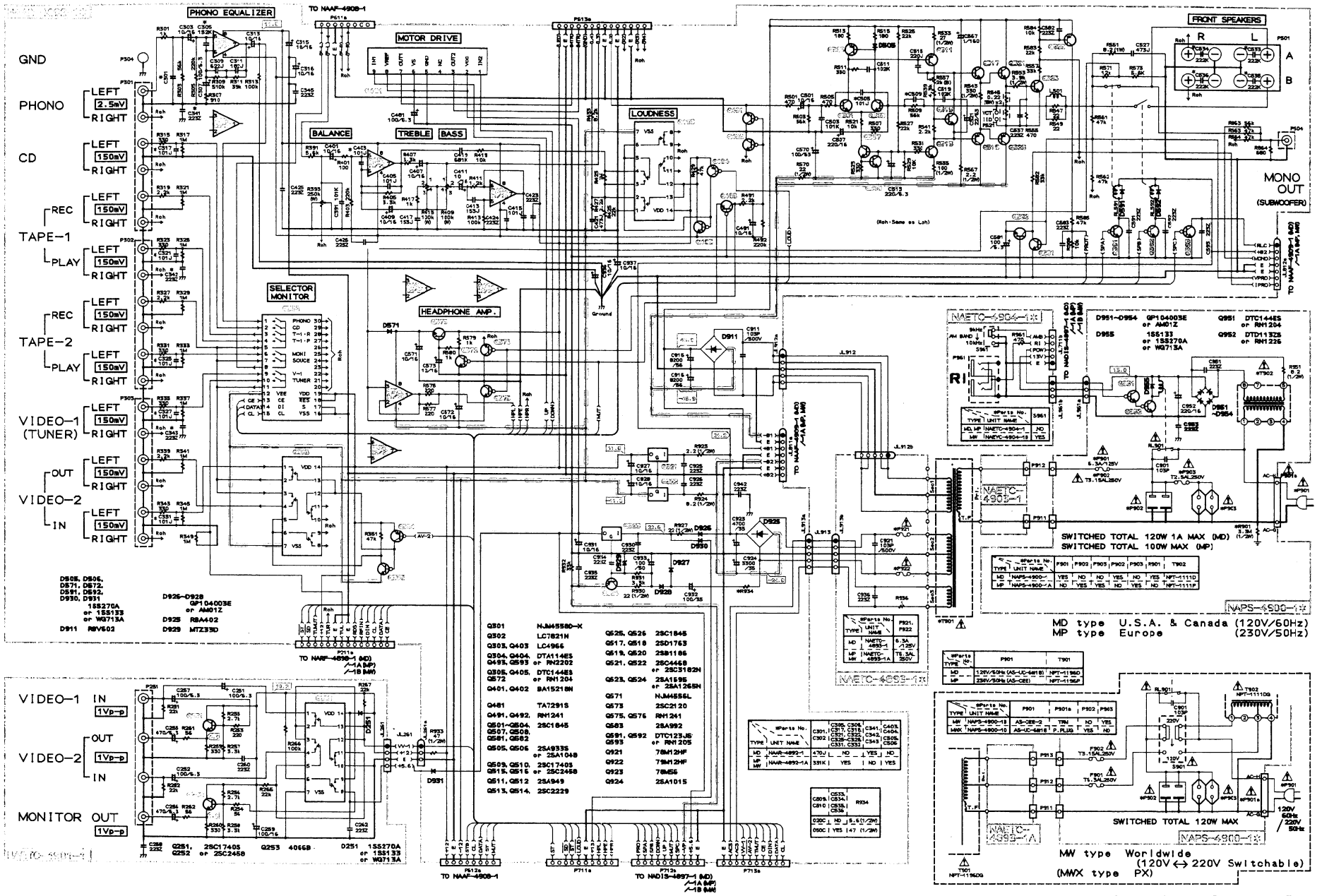
DISPLAY CIRCUIT PC BOARD (NADIS-4897-1/1A/1B/1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q701	22240773Y	μPD78042GF-064
	FL tube	
Q702	212127Y	FIP13LM8
	Remote control sensor	
U701	24130010Y	HC-312
	Transistors	
Q703	221282 or	DTC144ES or
	2213560	RN1204
Q704-Q706	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR
Q707	2213510 or	DTA114ES or
	2214350	RN2202
	Diodes	
D701,D702	223205 or	1SS270A or
D704,D705	223163	1SS133
D703	224450913	MTZ9.1C
D706,D707	224450562	MTZ5.6B
D708	223205 or	1SS270A or
D710-D712	223163	1SS133
D709	225291D	SEL4910D-D,LED
	Resonator	
X701	3010163	CST4.19MGW,Ceramic
	Coils	
L701-L703	233454K220	NCH-1452 220K
	Capacitors	
C701	3000075Y	0.047F,5.5V,Super
C702	375524744	0.47μF±5%,50V,Plastic
C703,C709	354721019	100μF,6.3V,Elect.
C704	354780109	1μF,50V,Elect.
C706,C707	354780109	1μF,50V,Elect.
C711	354721019	100μF,6.3V,Elect.
	Switches	
S701-S713	25035652	NPS-111-S604
S715-S737	25035652	NPS-111-S604
	Plugs	
P711b-P713b	25055659	NPLG-10P615
	Holder	
	27190937Y	FL tube
	Retainer	
	27141575Y	RI terminal

NOTE: <D>:120 V model only
<P>:230 V model only
<W>:Worldwide model only

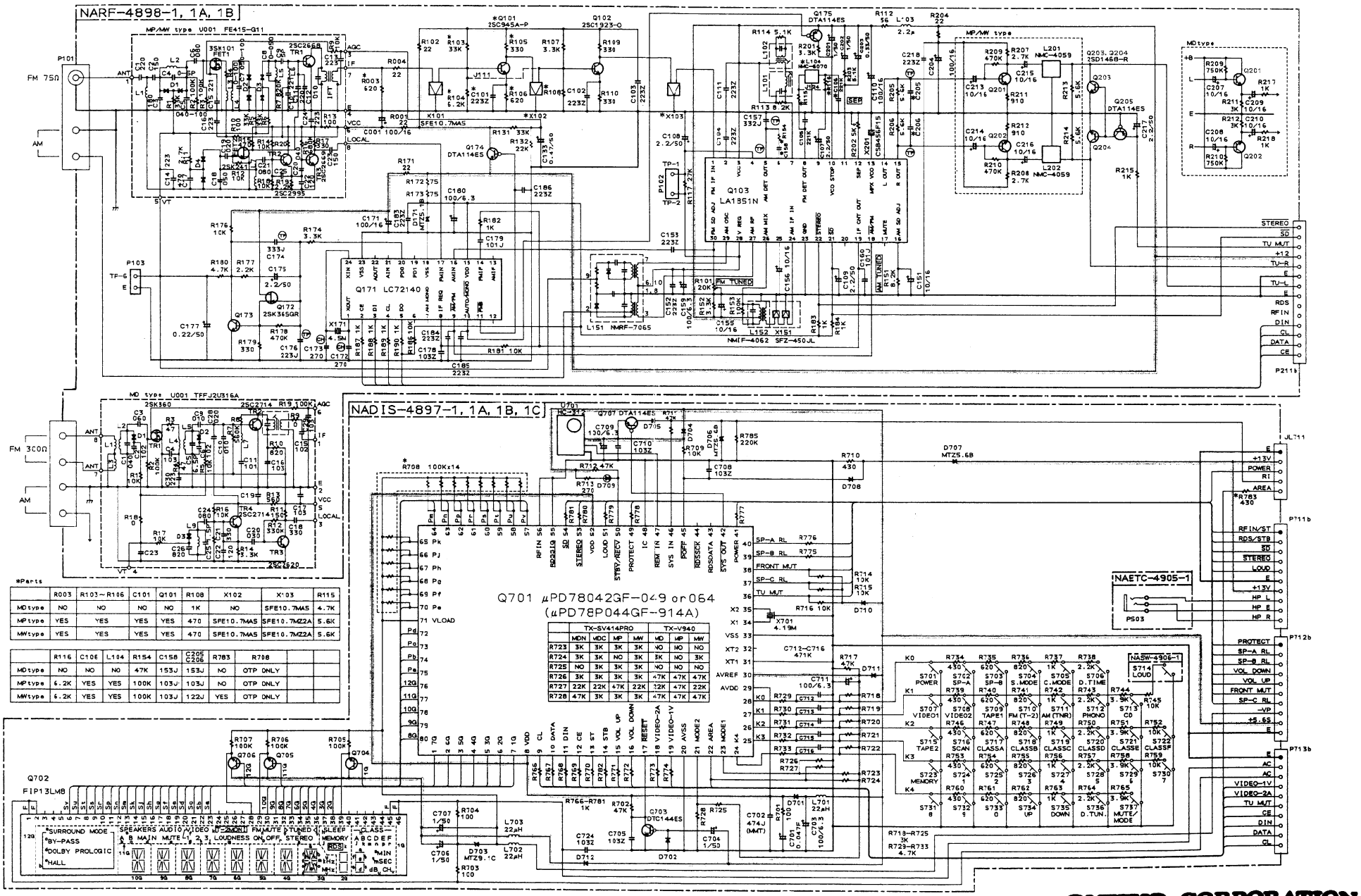
SCHEMATIC DIAGRAM

MODEL TX-SV414PRO



ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-SV414PRO



	R003	R103~R106	C101	Q101	R108	X102	X103	R115
MDtype	NO	NO	NO	NO	1K	NO	SFE10.7MA5	4.7K
MPtype	YES	YES	YES	YES	470	SFE10.7MA5	SFE10.7MZ2A	5.6K
MWtype	YES	YES	YES	YES	470	SFE10.7MA5	SFE10.7MZ2A	5.6K

	R116	C106	L104	R154	C158	C205 C206	R783	R708		
MDtype	NO	NO	NO	47K	153J	153J	NO	OTP ONLY		
MPtype	6.2K	YES	YES	100K	103J	103J	NO	OTP ONLY		
MWtype	6.2K	YES	YES	100K	103J	122J	YES	OTP ONLY		

	TX-SV414PRO MDN	MDC	MP	MW	TX-V940 MD	MP	MW
R723	3K	3K	3K	3K	NO	NO	3K
R724	3K	3K	NO	3K	NO	NO	NO
R725	NO	3K	3K	3K	NO	NO	NO
R726	3K	3K	3K	3K	47K	47K	47K
R727	22K	22K	47K	22K	22K	47K	22K
R728	47K	3K	3K	3K	47K	47K	47K

TUNER CIRCUIT PC BOARD (NARF-4898-1/1A/1B)

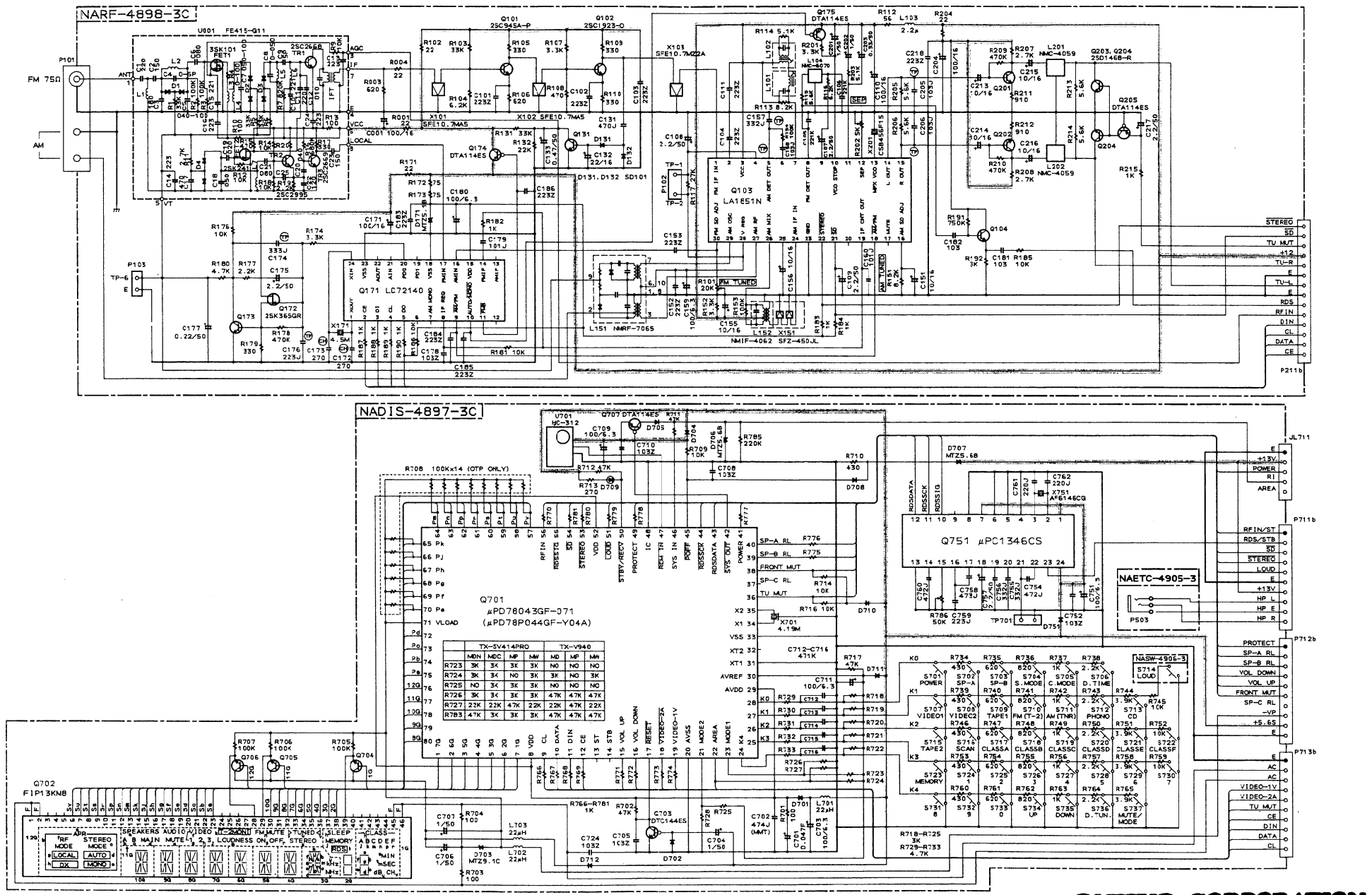
CIRCUIT NO.	PART NO.	DESCRIPTION
	Front end	
TU001	240095Y	TFFJ2U316A <D>
	240089	FE415-G11 <P/W>
	ICs	
Q103	22240749Y	LA1851N
Q171	22240750Y	LC72140
	Transistors	
Q101	2210746	2SC945A-P <P/W>
Q102	2211723	2SC1923-O
Q172	2212445	2SK365-GR
Q173	2213284 or	2SC1740S-R or
Q201,Q202	2212115	2SC2458-GR
Q174,Q175	2213510 or	DTA114ES or
Q205	2214350	RN2202
Q203,Q204	2212794	2SD1468-R
	Diode	
D171	224450512	MTZ5.1B
	Resonators	
X171	3010228Y	XTL-4.5M,Crystal
X201	3010227Y	CSB456F15,Ceramic
	Coils and transformers	
L101	233457Y	NFIF-4081
L102	233458Y	NFIF-4082
L103	233454M022	NCH-1452 022M
L104	233383	NMC-6070 <P/W>
L201,L202	233355A	NMC-4059 <P/W>
L151	232163	NMRF-7065
L152	232139	NMIF-4062
	Ceramic filters	
X101	3010071	SFE10.7MA5
X102	3010071	SFE10.7MA5 <P/W>
X103	3010071	SFE10.7MA5 <D>
	3010130	SFE10.7MZ2A <P/W>
X151	3010123	SFZ-450JL
	Capacitors	
C001	354741019	100 μ F,16V,Elect.
C107-C109	354780229	2.2 μ F,50V,Elect.
C110	354741019	100 μ F,16V,Elect.
C133	354784799	0.47 μ F,50V,Elect.
C151	354741009	10 μ F,16V,Elect.
C155,C156	354741009	10 μ F,16V,Elect.
C157	374723324	3300pF±5%,50V,Plastic
C158	374721534	0.015 μ F±5%,50V,Plastic <D>
	374721034	0.01 μ F±5%,50V,Plastic <P/W>
C159,C180	354721019	100 μ F,6.3V,Elect.
C174	374723334	0.033 μ F±5%,50V,Plastic
C175	354780229	2.2 μ F,50V,Elect.
C176	374722234	0.022 μ F±5%,50V,Plastic
C177	354782299	0.22 μ F,50V,Elect.
C201,C202	354780109	1 μ F,50V,Elect.
C203	354783399	0.33 μ F,50V,Elect.
C204	354741019	100 μ F,16V,Elect.
C205,C206	374721534	0.015 μ F±5%,50V,Plastic <D>
	374721034	0.01 μ F±5%,50V,Plastic <P>
	374721234	0.012 μ F±5%,50V,Plastic <W>
C207-C210	354741009	10 μ F,16V,Elect. <D>
C213-C216	354741009	10 μ F,16V,Elect. <P/W>
C217	354780229	2.2 μ F,50V,Elect.
	Resistors	
R101	5210263	N06HR 20KBC,Trim
R202	5210259	N06HR2KBC,Trim
	Terminal	
P101	25060160	NTM-4PDML086 <D>
	25060117	NTM-2PDML051 <P/W>
	Socket	
P211b	25050986	NSCT-14P773

POWER SUPPLY CIRCUIT PC BOARD (NAPS-4900-1/1A/1B/1D)

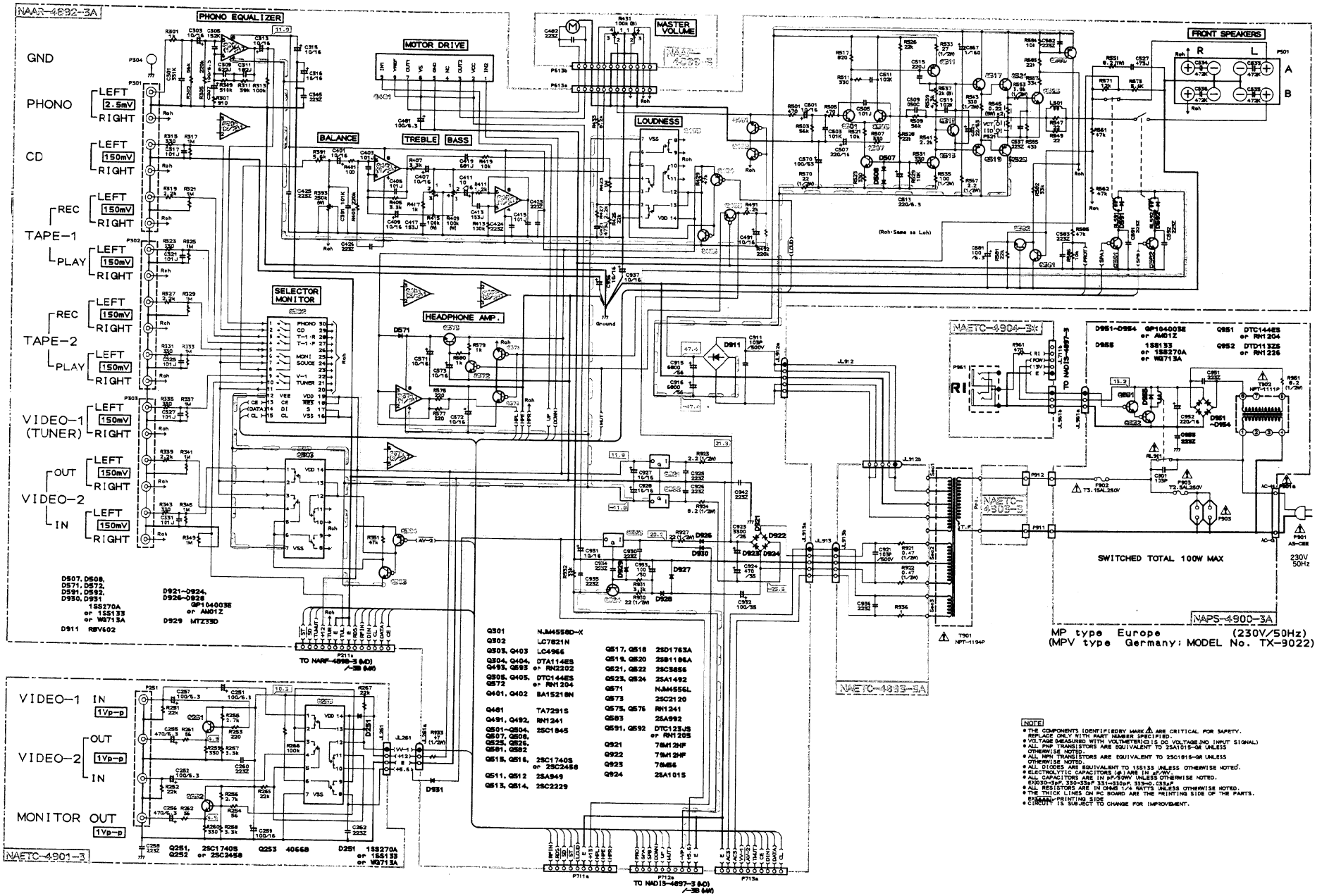
CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q951	221282 or	DTC144ES or
	2213560	RN1204
Q952	2213650 or	DTD113ZS or
	2214680	RN1226
	Diodes	
D951-D954	22380035 or	GP104003E or
	22380046	AM01Z
D955	223222,	WG713A,
	223205 or	1SS270A or
	223163	1SS133
	Capacitors	
C901	3500065A	⚠ DE7150FZ103PAC400V/125V
C952	354742219	220 μ F,16V,Elect.
	Resistors	
R901	431523355	⚠ 3.3MΩ,1/2W,Solid <D>
R951	453530824	8.2 ohm,1/2W,Metal
	Power transformer	
T902	2300670	⚠ NPT-1111D <D>
	2300671	⚠ NPT-1111P <P>
	2300672	⚠ NPT-1111DG <W>
	Relay	
RL901	25065483	⚠ NRL-1P5A-DC-12-084
	Fuses	
F901	252166Y	⚠ 6.3A-UL/T-237 <D/W>
F902	252076	⚠ 3.15A-SE-EAK <P/W>
F903	252075	⚠ 2.5A-SE-EAK <P>

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

SCHEMATIC DIAGRAM
MODEL TX-V940RDS



SCHEMATIC DIAGRAM
MODEL TX-V940RDS



ONKYO CORPORATION

CIRCUIT NO.	PART NO.	DESCRIPTION
	Fuseholders	
F901a	25050065	⚠ YSH403T <D/W>
F902a	25050065	⚠ YSH403T <P/W>
F903a	25050065	⚠ YSH403T <P>
	Plug	
P901a	25055675	NPLG-2P631 <D>
	Socket	
P902	25051126	⚠ NSCT-4P913,AC outlet <D/PX>
	25051125	⚠ NSCT-4P912,AC outlet <P/W>
	Switch	
S901	25065437	⚠ NSS-22157P,Voltage selector <W>

VIDEO CIRCUIT PC BOARD (NAETC-4901-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q253	222840661	4066B
	Transistors	
Q251,Q252	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR
	Diode	
D251	223222,	WG713A,
	223205 or	1SS270A or
	223163	1SS133
	Capacitors	
C251,C252	354721019	100μF,6.3V,Elect.
C255,C256	354724719	470μF,6.3V,Elect.
C257	354721019	100μF,6.3V,Elect.
C259	354741019	100μF,16V,Elect.
	Terminal	
P251	25045339	NPJ-4PDYE190

RI TERMINAL PC BOARD(NAETC-4904-1/1B)

CIRCUIT NO.	PART NO.	DESCRPTION
	Terminal	
P961	25045330	NPJ-2PDBL184
	Switch	
S961	25065286	NSS-22112 <W>

HEADPHONE TERMINAL PC BOARD(NASW-4905-1)

CIRCUIT NO.	PART NO.	DESCRPTION
	Terminal	
P503	25045255	YKB21-5009

LOUDNESS SWITCH PC BOARD(NASW-4906-1)

CIRCUIT NO.	PART NO.	DESCRPTION
	Switch	
S714	25035652	NPS-111-S604

SURROUND CIRCUIT PC BOARD (NAAF-4908-1)

CIRCUIT NO.	PART NO.	DESCRPTION
	ICs	
Q601	22240247 or	BA15218N or
Q673,Q674	22240293	NJM4558L-D
Q602	22240683 or	NJM2177L or
	22240692	M69032P
Q606	22240398 or	TC9162N or
	22240751	NJU7311L
Q651	22240686 or	M65830P or
	22240687	NJU9701D
Q671	22240266	TC9213P
	Transistors	
Q603,Q604	2213631 or	RN1241-A or
Q675,Q676	2213632	RN1241-B
	Diodes	
D651	224450562	MTZ5.6B
D652,D653	223222,	WG713A,
	223205 or	1SS270A or
	223163	1SS133
	Resonator	
X651	3010217	CST2.04MG040,Ceramic
	Capacitors	
C601,C602	354780229	2.2μF,50V,Elect.
C605,C606	354741009	10μF,16V,Elect.
C607-C610	354781099	0.1μF,50V,Elect.
C613,C614	374724734	0.047μF±5%,50V,Plastic
C615,C616	374722234	0.022μF±5%,50V,Plastic
C617-C620	354781099	0.1μF,50V,Elect.
C621,C622	354780479	4.7μF,50V,Elect.
C623-C627	354782299	0.22μF,50V,Elect.
C628	354741009	10μF,16V,Elect.
C629	354786899	0.68μF,50V,Elect.
C630	374724734	0.047μF±5%,50V,Plastic
C631,C660	374725625	5600pF±5%,50V,Plastic
C632	354780229	2.2μF,50V,Elect.
C634	354722219	220μF,6.3V,Elect.
C635	354741019	100μF,16V,Elect.
C636-C641	354741009	10μF,16V,Elect.
C642	374724724	4700pF±5%,50V,Plastic
C643	354741009	10μF,16V,Elect.
C644	392841007	10μF,16V,Elect.
C651	354782299	0.22μF,50V,Elect.
C653	374723924	3900pF±5%,50V,Plastic
C655	374726834	0.068μF±5%,50V,Plastic
C656	354744709	47μF,16V,Elect.
C657,C658	354781099	0.1μF,50V,Elect.
C659	374726834	0.068μF±5%,50V,Plastic
C661	374724724	4700pF±5%,50V,Plastic
C663,C665	354721019	100μF,6.3V,Elect.
C666	375524744	0.47μF±5%,50V,Plastic

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C671,C672	354780229	2.2 μ F,50V,Elect.
C675,C676	354741009	10 μ F,16V,Elect.
C677,C678	354780229	2.2 μ F,50V,Elect.
C679-C682	354741009	10 μ F,16V,Elect.
C684,C685	354741009	10 μ F,16V,Elect.
	Resistor	
R431	5104332Y	N16RQL100KBT25F,Main volume
	Plug	
P622a	25055405	NPLG-3P387
	Sockets	
P611b	25051127	NSCT-8P914
P612b	25050983	NSCT-8P770
P613b	25050986	NSCT-14P773
P621a	2000802ULY	NSAS-6P758

CENTER AND REAR AMPLIFIER PC BOARD (NAAF-4909-1/1A)

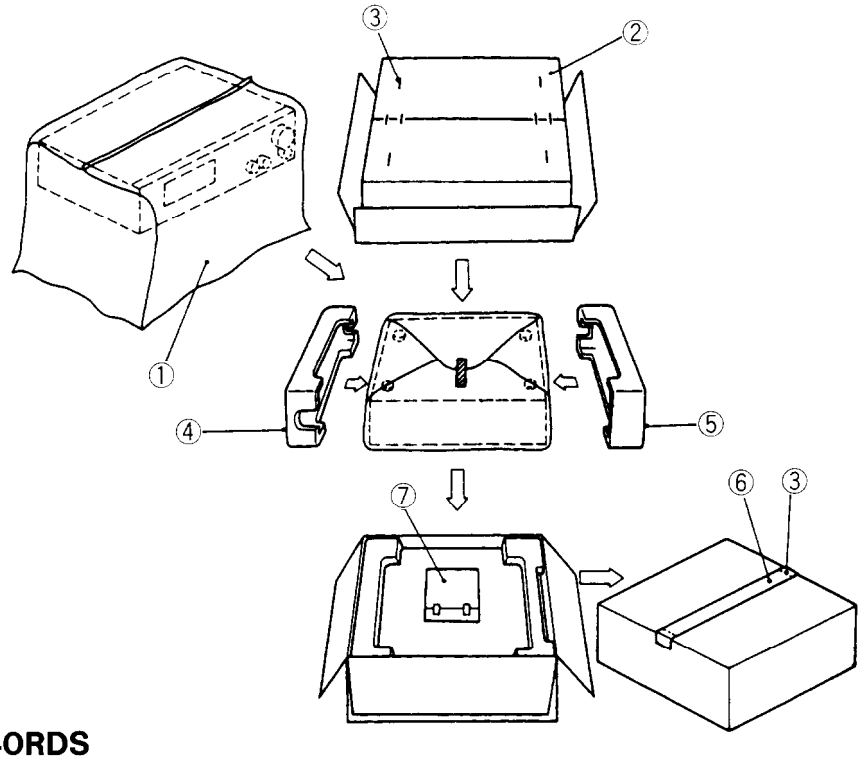
CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q801-Q804	2211732 or	* 2SC1845-F or
Q807,Q808	2211733	* 2SC1845-E
Q805,Q806	2213354 or	2SA933S-R or
	2212125	2SA1048-GR
Q809,Q810	2213284 or	2SC1740S-R or
Q815,Q816	2212115	2SC2458-GR
Q811,Q812	2211353 or	2SA949-O or
	2211354	2SA949-Y
Q813	2211633 or	2SC2229-O or
	2211634	2SC2229-Y
Q814	2211732 or	2SC1845-F or
Q825,Q826	2211733	2SC1845-E
Q817	2212653 or	2SC3421-O or
	2212654	2SC3421-Y
Q818	2211653 or	2SC2235-O or
	2211654	2SC2235-Y
Q819	2212643 or	2SA1538-O or
	2212644	2SA1538-Y
Q820	2211643 or	2SA965-O or
	2211644	2SA965-Y
Q821	2202253,	* 2SC4467-O,
	2202254,	* 2SC4467-Y,
	2202256,	* 2SC4467-P,
	2202502 or	* 2SC3181N-R or
	2202503	* 2SC3181N-O
Q822	2202373,	* 2SC4466-O,
	2202374,	* 2SC4466-Y,
	2202375,	* 2SC4466-P,
	2202352 or	* 2SC3180N-R or
	2202353	* 2SC3180N-O

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q823	2202243,	* 2SA1694-O,
	2202244,	* 2SA1694-Y,
	2202246,	* 2SA1694-P,
	2202492 or	* 2SA1264N-R or
	2202493	* 2SA1264N-O
Q824	2202363,	* 2SA1693-O,
	2202364,	* 2SA1693-Y,
	2202365,	* 2SA1693-P,
	2202342 or	* 2SA1263N-R or
	2202343	* 2SA1263N-O
	Diodes	
D805,D806	223222,	WG713A,
D811	223205 or	1SS270A or
	223163	1SS133
	Coils	
L801,L802	231176S	S-1.3C
	Capacitors	
C801,C802	354741009	10 μ F,16V,Elect.
C807	354742219	220 μ F,16V,Elect.
C808	354744709	47 μ F,16V,Elect.
C821,C822	374724734	0.047 μ F±5%,50V,Plastic
C827,C828	374724734	0.047 μ F±5%,50V,Plastic
C865,C867	354700109	1 μ F,160V,Elect.
C866	354784709	47 μ F,50V,Elect.
C868,C870	374724734	0.047 μ F±5%,50V,Plastic
C869	354700109	1 μ F,160V,Elect.
	Resistors	
R833,R834	443522704	27 ohm,1/2W,Metal oxide
R835,R836	442521014	100 ohm,1/2W,Metal oxide
R837	5215044	N08HR 2KBC,Trim
R843,R844	443523314	330 ohm,1/2W,Metal oxide
R845	4000132Y	0.22 ohm×2,5W+5W,Metal plate
R846	4000131Y	0.22 ohm×2,2W+2W,Metal plate
R851,R852	453530824	8.2 ohm,1/2W,Metal
R853,R854	443523924	3.9 kohm,1/2W,Metal oxide
R865,R866	453530224	2.2 ohm,1/2W,Metal
R867-R870	443522204	22 ohm,1/2W,Metal oxide
	Relay	
RL801	25065485	NRL-2P2A-DC24-086
	Plugs	
P621b	25055234	NPLG-3P218
	Terminal	
P801	25060191Y	NTM-6PDML113

CAUTION:Replacement for transistor of mark *,if necessary, must be made from the same beta group (H FE) as the original type.

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PACKING VIEW



TX-V940/TX-V940RDS
PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
1	29100034-1Y	Styrene bag for unit
2	29052692Y	Carton box <D/W>
	29052705Y	Carton box <P>
3	282301	Ten staples
4	29091652BY	Pad R
5	29091651BY	Pad L
6	29110071	PP tape
7	Accessary bag ass'y	
	232140	NMA-3057,AM loop antenna
	2010200	Cord RI
	3010054	UM-3,Two batteries
	25055018	CV-K-1,Conversion plug <W>
	25065462	YAE21-0237, Antenna adaptor <W>
	24140261AY	RC-261S,Remote control transmitter
	29100097-1Y	Styrene bag for accessary
	292111Y	FM antenna <D>
	292112Y	FM antenna <P/W>
	29341901Y	Instruction manual
	29341904Y	Instruction manual <P>
	29341903Y	Instruction manual <C/W>
	29358002K	Service station list <N>
	29361678Y	Label UPC <N>
	29365019A	Warranty card <N>
	29360778	Label FLASH <N/C>

NOTE: <D>:120V model only
<P>:230V model only <TX-V940RDS only>
<W>:Worldwide model only
<N>:USA model only
<C>:Canadian model only

TX-SV414PRO
PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
1	29100034-1Y	Styrene bag for unit
2	29052696Y	Carton box
	29052698Y	Carton box <PX>
3	282320	Ten staples
4	29091652BY	Pad R
5	29091651BY	Pad L
6	29110071	PP tape
7	Accessary bag ass'y	
	232140	NMA-3057,AM loop antenna
	2010200	Cord RI
	3010054	UM-3,Two batteries
	25055018	CV-K-1,Conversion plug <W>
	25055251	CV-CP,Conversion plug <PX>
	28330072	Two caps <PX>
	25065462	YAE21-0237, Antenna adaptor <W>
	24140262AY	RC-262S,Remote control transmitter
	29100097-1Y	Styrene bag for accessary
	292111Y	FM antenna <D>
	292112Y	FM antenna <P/W>
	29341901Y	Instruction manual
	29341903Y	Instruction manual <C/W>
	29341904Y	Instruction manual <P>
	29380084	Instruction sheet <PX>
	29358002J	Service station list <N/PX>
	29361680Y	Label UPC <N/PX>
	29365019A	Warranty card <N>
	29365021	Warranty card <PX>

NOTE: <D>:120V model only
<W>:Worldwide model only
<N>:USA model only
<C>:Canadian model only